MANAGERIAL FACTORS ASSOCIATED WITH HOSPITAL PERFORMANCE IN VHEMBE DISTRICT, LIMPOPO PROVINCE

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Declaration

I, Donna May Greyling, student number 10620051; hereby declare that the mini-dissertation titled '**Managerial factors associated with hospital performance in Vhembe district, Limpopo province**' for the Master in Public Health degree at the University of Venda, hereby submitted by me, has not previously been submitted for a degree at this or any other university, and that it is my own work in design and execution and that all reference material contained therein has been duly acknowledged.

Signature ..... Date 19/07/2020

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Abstract

This study was aimed at gaining an in-depth understanding into the managerial factors that are associated with hospital performance. Out of all the contributing factors, managerial factors have the greatest impact on hospital performance. In South Africa, despite the availability of policies and guidelines and adequate funding, hospital performance is still poor. This study investigates the different aspects of managerial performance, looking specifically at organisational factors such as organisational culture, available resources, and performance monitoring methods; as well as personal factors of the managers; namely, their focus on quality, and personal leadership styles and skills. The study is a quantitative cross-sectional descriptive survey, utilising questionnaires distributed at the two largest district hospitals in Vhembe District. The study was aimed at a total population sample of managers, doctors and professional nurses in the two hospitals. The study highlighted areas of management in the two hospitals studied that were commendable, as well as those needing urgent attention. There was a statistically significant association between managerial factors associated with hospital performance, and better perceptions of hospital performance. In particular, leadership skills such as motivation and dedication, methodical and logical management styles, and a hands-on approach had a significant contribution to perceptions of hospital performance. The study also highlighted the importance of good communication between senior management and subordinates.

Keywords: Hospital performance; managerial factors; organisational factors; personal factors; quantitative study

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List of Acronyms

AIDS- Acquired Immuno-Deficiency Virus
CEO- Chief Executive Officer
CFO- Chief Financial Officer
DOH- Department of Health
GDP- Gross Domestic Product
HIV- Human Immunodeficiency Virus
MDG- Millennium Development Goal
NCS- National Core Standards
NHI- National Health Insurance
NHS- National Health Service
NSDA- Negotiated Service Delivery Agreement
PATH- Performance Assessment Tool of quality improvement in Hospitals
P/EMTCT- Prevention or Elimination of Mother To Child Transmission
PMDS- Performance Management and Development System
RWOPS-Remuneration of Work Outside Public Service
SDGs- Sustainable Development Goals
UK- United Kingdom
USA-United States of America
WHO- World Health Organisation

CHAPTER 1

Introduction and Background of Study

1.1 Introduction

Effective management of hospitals is vital to the translation of government hospital policies into effective hospitals, with positive end results and patient outcomes, equating to hospital performance. Managerial factors refer to the specific attributes of different members of a management team in a hospital, which, among others, include management styles, education, and experience. The link between managerial factors and hospital performance is well described in literature (Taylor, Clay-Williams, Hodgen, Braithwaite and Growne, 2015; Parand, Dopson, Renz and Vincent, 2014). Knowledge about which managerial factors are attributed to good hospital performance assists in identifying methods that can be adopted by hospital managers to ensure performance improvement.

This study will investigate these managerial factors associated with hospital performance in Vhembe district. The following sections will give an overview of the study. A description of the background of the study, problem statement, rationale for the study, the study's significance and purpose, as well as the objectives of the study will be made. Finally, definitions of the key terms relevant to the discussion will be explained.

1.2 Background of the Study

The Constitution of South Africa stipulates in Section 27, that "Everyone has the right to have access to health care", and that the state should "take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights" (Constitution of Republic of South Africa, 1996). The National Health Act, 61 of 2003 provides the framework for the health system to carry out these obligations. Some of the objectives of the National Health Act are as follows:

- "To provide for a system of co-operative governance and management of health services, within national guidelines, norms and standards, in which each province, municipality and health district must address questions of health policy and delivery of quality health care services".
- "To establish a health system based on decentralised management, principles of equity, efficiency, sound governance, internationally recognised standards of research and a spirit of enquiry and advocacy which encourage participation".
- "To promote a spirit of co-operation and shared responsibility among public and private health professionals and providers and other relevant sectors within the context of national, provincial and district health plans" (National Health Act, 2003).

The National Department of Health develops a regular strategic plan for carrying out these objectives. Some of the current National Strategic Plan goals for 2015-2020 which pertain to hospital management and performance are:

- Disease prevention and health promotion
- “Progress towards universal health coverage through the development of the National Health Insurance (NHI) scheme”
- “Improve health facility planning by implementing norms and standards”.
- “Improve financial management by improving capacity, contract management, revenue collection and supply chain management reforms” (National Strategic Plan, 2015).

In an effort to improve and assess the quality of health services, South Africa has formulated the following three policies and plans on how hospitals should be managed, and how they should be performing. The NCS for health establishments were formed as a tool to assess hospital performance. The standards aim to assist hospital managers to benchmark and assess their own performance, as well as to create a standard quality of care over the whole country, identify shortcomings and gaps, and come up with a way forward to improve performance. The standards focus on seven priority domains, namely: patient rights, patient safety, clinical governance and clinical care, clinical support, public health, leadership and governance, operational management and facilities and infrastructure (Department of Health, 2011).

In addition, a policy on the management of public hospitals was produced in 2012 (Department of Health, 2012). The aim of the policy was to ensure that management in hospitals was effective, efficient and transparent. It outlines what each level of hospital care should offer, and specific requirements that need to be present in Chief Executive Officers (CEOs) of hospitals, including the need for them to be medically trained. It also describes the characteristics that should be present in members of the hospital board and its subcommittees. This was done in a bid to increase the community’s confidence in the public health system (Department of Health, 2012).

The Negotiated Service Delivery Agreement (NSDA) is a charter aimed at reaching the outcomes outlined by the South African government as the most important indicators for the period. The latest period was from 2010 to 2014. The four outputs focussed on in the health sector aspect of the NSDA were 1. Increasing life expectancy 2. Decreasing maternal and child mortality 3. Combating Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) and decreasing the burden of disease from tuberculosis 4. Strengthening health system effectiveness. Improvement in the first three outputs is reliant

on the fourth output. The fourth output speaks about the changes that were planned for the health system. It included restructuring the health system to be based on Primary Health Care, through NHI. Improvement of physical infrastructure, including health technology and information technology, as well as the maintenance programmes for this infrastructure were planned in a bid to improve patient satisfaction. A plan to formulate a common set of norms and standards for each level of care was made, and an independent system of assessing compliance was formed to ensure that the standards were met. Improvement in the skills of human resources, as well as the system for monitoring their performance was planned. A monthly monitoring system on provincial health spending was planned, so that intervention could be carried out when problems were identified. The new healthcare financing system was planned to be enabled through the introduction of NHI (Department of Health, 2013). These plans did not come to complete fruition, but are a work in progress.

The above policies all aim to achieve one thing, the vision of the Department of Health (DOH), which is for “A Long and Healthy Life for All South Africans”. However, the hospitals have not achieved all of these goals, and still perform poorly despite these guidelines. The main failures include those of financial stewardship, leadership and management (Coovadia, Jewkes, Barron, Sanders and McIntyre, 2009). These failures mean that the extensive investment of time, research and expertise into the formulation of world-class health policies go unfulfilled. It also directly translates into poor quality of care by the hospitals at every level of public health in South Africa. This, coupled with severe lack of physical and human resources created a difficult landscape in which to improve health service delivery (Jobson, 2015). Afsharkazemi, Manouchehri, Salarifar, and Nasiripour (2013) showed that managerial factors statistically have the greatest impact on hospital performance. For this reason, this study will focus specifically on the managerial factors that are associated with hospital performance.

Most of the studies done on hospital performance and the role of managers in attaining high quality hospitals have been done in Europe and United States of America (USA). It was found that, although difficult to quantify, managerial methods and organisational culture do affect hospital outcomes and team performance, and that it is necessary to study high performing hospitals to identify which characteristics they hold which make them perform better (Davies, Mannion, Jacobs, Powell and Marshall, 2007; Parand et al., 2014; Taylor et al., 2015).

Performance can be uniformly assessed using global standards- in particular, the Sustainable Development Goals (SDGs). In 2000, the 191 member countries of the World Health Organisation (WHO) signed a commitment to the eight Millennium Development Goals (MDGs), of which goal four, five and six were directly related to health. At the end of 2015,

these goals were replaced by the Sustainable Development Goals (United Nations, 2015). More recently, in 2016, data accumulated over 25 years, looking at 33 of the health-related SDGs placed South Africa in 134th position. In general, globally, performance has improved for most indicators. The general improvement is encouraging, but the SDGs are ambitious goals, and point out the current gaps in health care (Lim, Allen, Bhutta, Dandona, Forouzanfar, Fullman et al., 2016). African countries are generally performing poorly as compared to the rest of the world, with 9 out of the bottom 10 rankings being held by African countries, and none holding a position in the top 50 rankings (Lim et al., 2016).

South Africa's health history is one of a fragmented health system, with inequitable services supplied (Department of Health, 2004; Coovadia, Jewkes, Barron, Sanders and McIntyre, 2009). An assessment of the progress towards equal access to healthcare in South Africa, and other countries was made by Marten, McIntyre, Travassos, Shishkin, Longde, Reddy and Vega (2014). It was found that the barriers to health care are greater for the poorer people in the country. In addition, the uneven distribution of health care workers between provinces, and between the private and public sectors exacerbate the barrier (Marten et al., 2014). The South African Health Review of 2018 estimated that 56.3% of all general practitioners, 35.8% of specialists and 73.3% of nurses worked in the public sector, which serves 80% of the population (Gray and Vawda, 2018).

Focussing more specifically on the area of study, Limpopo Province has a lower number of doctors per 100 000 population than the national average, at 23.4 per 100 000 population, compared to the national average of 31.6 per 100 000, and even worse statistics in the specialist population, with 1.1 specialists per 100 000 population in Limpopo, compared to a national average of 10.2 per 100 000 population (Gray and Vawda, 2018). This stark contrast points to other problems in Limpopo's health system, as without human resources, it is impossible to deliver high quality of care. In 2011, DOH in Limpopo was placed under administration to rectify, in particular, the problems of financial management, supply chain management and governance. During the period under administration, which provisionally ended in July 2014, several improvements were made, including the appointment of 37 new Chief Executive Officers (CEOs) with a background in health, rather than in management or business alone. The financial situation was improved, and supply of medicines improved (Department of Communication, 2014). However, much more still needs to be done at the level of individual hospitals to continue improving quality.

A study done on performance of hospitals in Gauteng Province, using 'Performance Assessment Tool of quality improvement in Hospitals' (PATH), showed inefficient

performance, unacceptable health outcomes, and poor patient satisfaction in government hospitals in comparison to private hospitals. The reasons for poor performance were cited as poor decision-making skills on the use and allocation of resources, and the relative paucity of integrated information systems (Ibewuike and Weeks, 2014).

Focussing on Vhembe district, below are the results from the office of Health Standards Compliance's 2015/2016 inspection based on the National Core Standards (NCS) assessed two Vhembe district hospitals, namely Malamulele hospital and Siloam hospital (Mazwai, 2016). Their performance ranged between 47% for cleanliness and 71% for waiting times. While this performance is better than many other districts (ranking 4th and 7th out of 23 districts), there is definite room for improvement (Table 1).

Table 1: Vhembe district performance during the 2015/2016 Health Standards Compliance inspection.

AREAS ASSESSED	%
Positive and caring attitudes	68
Patient safety	55
Infection prevention and control	60
Cleanliness	47
Availability of medicines and supplies	68
Waiting times	71

(Mazwai, 2016)

1.3 Problem Statement

Having worked as a doctor in public health care for several years, the researcher has observed, and experienced the effects of poorly managed hospitals. There are long delays in health care delivery due to malfunctioning vital equipment, and inadequate budgets for maintenance of equipment. This results in backlogs, sub-standard care, and avoidable morbidity and mortality. Health care workers' attitudes were also sometimes seen to be self-serving, and health care workers who became despondent with the working environment leave to join the private sector.

Regular measuring and reporting on hospital performance has become key to determining which areas need to be focussed on for quality improvement (Brand, Barker, Morello, Vitale,

Evans, Scott, Stoelwinder and Cameron, 2012). This has become increasingly evident in recent times, amidst a growing global demand by the public for transparency, excellence and consistency of care (Groene, Botje, Sunol, Lopez and Wagner, 2013). Each country and level of health care has its own challenges. The pursuit of good hospital performance is a global goal, and poor management is faced all over the world (World Health Organization, 1948; Afsharkazemi et al., 2013).

Despite the availability of the policies and guidelines, there are still major problems with hospital management in South Africa. In the last National Inspection Report of 2015/2016 which is based on the NCS; poor management, a lack of accountability, a culture of mediocrity rather than excellence, demotivated staff, and even an erosion of professional ethics, were all cited as reasons for poor performance (Mazwai, 2016). Health establishment governance was found to be lacking, and oversights such as a lack of responsive, hands-on leadership, and an effective, decisive management team were found. Inadequate funding of vacant posts, inadequate infrastructure and maintenance budget, lack of medical equipment, medical supplies and consumables including pharmaceuticals were reported.

Public health uses 11% of the country's Gross Domestic Product (GDP), which far exceeds the 5% recommended by the WHO. Despite this high expenditure, healthcare in South Africa is poorer than other countries with similar income (Jobson, 2015). This study therefore seeks to investigate managerial factors that are associated with hospital performance.

1.4 Rationale for Study

Studies have been done in South Africa and abroad (Taylor et al., 2015; Parand et al., 2014), and South African guidelines and reports on hospital performance have been formulated (Department of Health, 2011; Department of Health, 2012; Department of Health, 2013). However, there is no known study conducted in Vhembe district on managerial factors associated with hospital performance.

1.5 Significance of Study

At a hospital level, the study recommendations might be used by the managers to improve their management within the health system, and within the different sections of the internal hospital. At a district level, it may assist the DOH to pinpoint managerial factors that are associated with hospital performance in Vhembe district. At a national and global level, this study has the potential to be of great assistance in future planning, quality improvement

projects, and management personnel selection in district hospitals, as well as the training of current and future managers.

1.6 Purpose of the Study

The purpose of this study is to investigate the managerial factors associated with hospital performance in Vhembe district.

1.7 Objectives of the Study

The objectives of the study are:

1.7.1 To assess the organisational factors associated with management of Vhembe district hospitals.

1.7.2 To determine the personal factors associated with management of Vhembe district hospitals

1.7.3 To measure the association between hospital performance and personal and organisational factors.

1.8 Definition of Key Terms

- A **Hospital** is a 'health care institution that has an organised medical and other professional staff, and inpatient facility, and delivers services 24 hours per day, 7 days per week.' (Lourenco, 2017). In this study, the hospitals being studied are those in Vhembe district. The two hospitals included in the study are Elim and Siloam hospital, which are both district hospitals.
- **Hospital performance** describes the quality of healthcare at a particular hospital. It is defined in terms of specific goals, targets and criteria laid down by the DOH, with the ultimate goal of achieving better health for the community (Shaw, 2003). In this study it refers to the quality of service achieved by the hospitals, as assessed by the perceptions of hospital managers, doctors and professional nurses participating in the study.
- **Managerial factors** are the aspects involved in the organization and coordination of the activities in order to achieve defined objectives (Luthra, 2017a). In this study, the focus is on those characteristics, practices and qualities found in hospital managers and management teams of Vhembe district hospitals.

1.9 Conclusion

This chapter introduced the study, and gave a background to the study. The purpose and objectives to the study were also outlined. The next chapter will focus on the literature review around the topic.

CHAPTER 2

Literature Review

2.1 Introduction

This chapter focusses on a literature review of managerial factors associated with hospital performance globally, in Southern Africa, and in South Africa. Together with the NCS, management of public hospitals policy and NSDA, this review will form a picture of what factors are consistent characteristics of well performing hospitals worldwide. The search strategy comprised of Boolean logic searches on Ebscohost and Medline, and phrase searching on Google scholar using permutations of the search phrases “hospital performance”, “managerial factors”, “quality”, “quality of care”, “management” and “good performance”, as well as focussed searches for South African health management policies and the NCS. The literature review comprises of data based literature, and the Quality management Input, Process, Output Model as a conceptual framework (Parand et al.,2014).

2.2 Data Based Literature Review

The data based portion of this literature review focused on relevant literature which identified factors consistently present in well performing hospitals. Two systematic reviews(Taylor et al., 2015; Parand et al., 2014), each reviewing 19 studies formed a large base of the literature, along with other studies found on the topic. In addition, the NCS, NSDA and the policy on management of public hospitals are used.

2.2.1 Global Hospital Performance Assessment

In this section, the researcher will highlight the status of hospital performance globally, and explore the strategies used to improve.

The SDGs, which were developed and adopted by 193 countries in 2015, with an aim to improve by the year 2030 (United Nations, 2016; Sarup, Goldbach, Rodriguez, Reynolds, Volkov and De Bode, 2017) made a clear goal to achieve universal health coverage globally. According to the WHO in 2015, 10-15% of the total deaths in low and middle income countries were attributed to poor quality of care, and a still unacceptable proportion of deaths in high income countries such as in Europe and the United States. This has led to a global focus on universal coverage, with performance assessment by individual countries and hospitals becoming increasingly important. A diverse array of initiatives have been developed by different countries. However, there is evidence that the push towards universal health coverage may succeed, but at the cost of quality of care received by the patient (National Academies of Sciences, 2018).

In countries such as the USA and the United Kingdom (UK), hospital performance assessment is widely used in various ways. A system called Pay for Performance has been used since 2004 to encourage good performance. It is a system of rewarding health care workers for performing well and maintaining good outcomes, rather than for the quantity of patients that they see. A population study by Ryan, Krinsky, Kontopantelis and Doran (2016) from the UK reviewed the long term effect on using a pay per performance model by using mortality statistics from 1994 to 2010 for the UK, as well as other high income countries that did not use a pay for performance model. The composite outcome was -3.68 per 100 000 population (p=0.107), indicating that the pay for performance model did not result in a statistically significant reduction in mortality.

A qualitative article by Sharifi and Saberi (2014) assessed a number of different methods of improving hospital quality and safety used in Iranian hospitals. Top performing hospitals were then analysed to establish what methods they used to ensure high quality of care. The key factors associated with high performance in these hospitals were creating an atmosphere that supported quality improvement, by creating appropriate processes for the individual hospital to improve, attracting the right employees to promote quality improvement, and giving them the tools to carry out their work.

A Ugandan study by Kakooza, Tusiime, Odoch and Bagire (2015) claims that there is not enough research that has focussed on improving management in health care. A connection needs to be made to bridge the gap between poor performance and implementation of practical strategies for improving performance. Since then, the “Crossing the global quality chasm” report addressed this extensively, analysed the available evidence, and produced recommendations on a global strategy for improving quality of healthcare (National Academies of Sciences, 2018). The 6 dimensions made for American healthcare quality improvement by the Institute of Medicine in 2001 were modified to be applicable in the modern global, and in particular low- and middle-income health environment. The summarised goals were:

- Patient Safety
- Effectiveness- providing services to those who need it, and avoiding overuse of unnecessary care
- Person-centeredness- health care that is respectful, and focussed on individual patient preferences, needs and values.

- Accessibility, Timeliness, Affordability
- Efficiency- avoiding waste of resources of all kinds, including waste as a result of poor management, fraud, corruption, and abusive practices.
- Equitable care to all regardless of gender, ethnicity, race, geographic location, and socioeconomic status (National Academies of Sciences, 2001; National Academies of Sciences, 2018).

In the South African NCS report, similar goals were made, and within those goals, priorities were stated- namely values and attitudes of staff, cleanliness, waiting times, patient safety and security, infection prevention and control, and availability of basic medicines and supplies (Visser, Bhana and Monticelli, 2012). The similarities of these international and national goals indicate a common global purpose. The onus is on the leaders and managers to bring these goals to fruition.

According to the Minister of Health of South Africa, Dr Aaron Motsoaledi (2011), “The factors that contributed to the poor quality of health care in South Africa: poor management, a lack of accountability, a culture of mediocrity rather than excellence, demotivated staff, and even an erosion of professional ethics,” must also be taken into account.

As a response to this, the remainder of the literature review will focus on the hospital managers’ role in improving hospitals in the above domains, as they are directly involved in creating accountability, a culture of excellence, maintaining motivation amongst staff, and upholding professional ethics.

2.2.2 Managerial Factors Associated with Hospital Performance

Poor or good performance in the setting of healthcare is difficult to define due to its’ heterogeneous, intricate and complex nature. There are many determinants to its’ performance. In a bid to make health care more patient-centred, it is important for managers to collect and address feedback from them (National Academies of Sciences, 2018). Patients tend to assess hospital quality based on their perceptions. Complaints should be viewed as an opportunity by managers to improve service, and to gain insight into patients’ perspective of the hospital (Reader, Gillespie and Roberts, 2014).

It is difficult to assess the quality of a service given to a community, because the results, or performance cannot easily be assessed retrospectively. In addition, the complexity of the service, the large number of contributing factors including staff, and their level of expertise,

attitude, and availability; resources; management structure and efficacy; as well as patient factors, to name just a few, all play a part in the overall quality of hospitals (Mosadeghrad, 2014). However, in this discussion, the focus is on managerial factors associated with hospital performance, described under two headings: organisational factors and personal factors.

2.2.2.1 Organisational factors associated with hospital performance

Organisational factors are the structures and aspects within the health care system and institution that influence the functioning of the hospital (Luthra, 2017b). It includes positive organisational culture, building and maintenance of human resources, physical resources, and effective performance monitoring.

Sarifi et al. (2014) found that top performing hospitals do not undertake more challenges to improve quality, but rather, have a better attitude and commitment to the improvement, as shown by consistency, following through on promises made, and by their willingness to invest in staff, processes and tools that would assist the hospital in reaching the goals of quality care and performance.

2.2.2.1.1 Organisational culture

Organisation culture refers to the less visible, softer aspects of a healthcare system, and is thus more difficult to grasp and quantify. Mannion and Davies (2018) define it as 'the shared ways of thinking, feeling, and behaving in healthcare organisations'. Sharifi and Saberi (2014) concluded that one of the key factors in producing a well performing hospital was for managers to develop the right culture in the institution for quality to improve. Top performing hospitals were found to have a culture of commitment to picking up issues with quality, and finding solutions for them.

Mannion and Davies (2018) stated that bringing about better hospital performance has often been made too simplistic, and that bringing about better hospital performance through confronting hospital culture needs to be addressed with more depth. They described 3 levels of organisational culture. The first level is the visible manifestations, or 'the way things get done'. It is the manner in which the institution addresses problems in quality, such as how monitoring of performance, staff complaints and patient feedback are processed. The second level is the shared ways of thinking in an institution, or the foundational values and beliefs used to justify and sustain the visible manifestations. The third level is the deeper shared assumptions. This includes ideas of what each person's role is in the hospital, whether staff or patients'. Organisational culture often determines attitudes to change and improvement, and the ease with which the need for change can be identified and acted upon (Mannion and Davies, 2018). One aspect of organisational culture is the manner in which hospital staff

interact with the patients. A positive foundation of communication and interaction between the hospital staff and patients sets the tone for a positive experience for the patient (Ross and Venkatesh, 2015). An interventional study by Curry, Brault, Linnander, McNatt, Brewster et al. (2018) measured hospital performance after instituting a programme for improving aspects of organisational culture in ten hospitals, and found that six out of the ten hospitals had a statistically significant improvement in performance, including mortality rates.

Positive organisational culture consists of good teamwork, relationships, staff morale, unity in reaching goals, expertise driven practice, and community integration.

Teamwork

Several studies have been carried out on the effect of teamwork on hospital performance. Individual studies such as those by Kakooza et al. (2015) found that teamwork has positive effects on hospital outcomes, and that communication within the team has been found to be one of the most important factors associated with hospital performance. A systematic review of 31 articles found a mean correlation of 0.28 and odd's ratio of 2.8, indicating that teams that practise teamwork effectively are 2.8 times more likely to have better performance (Schmutz, Meier and Manser, 2019).

Relationships

Qualitative data from several studies acknowledge the link between good relationships amongst members of the management team and better outcomes. In addition, good relationships in teams were cited as resulting in unity, open communication and mutual respect between colleagues. This in turn results in a good working environment, because when 'people are happy', the atmosphere is positive, and staff are more likely to work effectively towards positive change (Landman, Spatz, Cherlin, Krumholz, Bradley and Curry, 2013; Kotagal, Lee, Habiyakare, Dusabe, Kanama, Epino, Rich and Farmer, 2009; Couper and Hugo, 2005; Bradley, Curry, Webster, Mattera, Raumanis, Radford et al., 2006a). A met-analysis by Marlow, Lacerenza, Paoletti, Burke and Salas (2018) confirmed this connection between communication and team performance.

Staff morale

The senior management's role in overseeing middle management and stewarding resources effectively ensures that middle management remains motivated to work towards the vision of the hospital (Department of Health, 2011). Many studies have shown the association between staff morale and quality of care. A multivariate analysis of data on the UK National Health Service (NHS) employees found that employees that were more involved had a higher level

of morale, which translated to better hospital outcomes (Bosak, Dawson, Flood and Peccei, 2017).

A South African case study assessed the factors that positively and negatively affected staff morale in a district hospital. Factors found to positively affect staff morale were mostly intrinsic, meaning that the individual's internal sense of vocation and motivation were the most important factors. More external factors were found to negatively affect staff morale, such as workload, staff shortages, poor communication between staff and management and physical resource deficiencies (Ooo, Chabikuli and Olorunju, 2014). In a systematic review by Taylor at al. (2015), happy and fulfilled staff translated to more permanence of staff. It can therefore be extrapolated that hospital managers should focus on improving extrinsic factors with a view to improving staff morale and quality of care.

Unity in reaching goals

In Ross and Venkatesh (2015), diagnostic procedure efficiency, and hospital cleanliness were amongst the highest statistically significant factors associated with patient satisfaction, with both of these factors having a p value <0.001. Long waiting times for procedures, and for results of investigations reflects badly on the quality of care, and hinders effective care. Remedying this requires unity and teamwork, to ensure that there is maximal usage of limited resources, in order for waiting times to be minimised. In addition, visible cleanliness, and staff dedication to strive for the goal of cleanliness has valuable effects on patient perceptions of the hospital quality, and the actual quality of care in terms of hygiene and infection control (Ross and Venkatesh, 2015).

Expertise driven practice

As described in the systematic review by Taylor et al. (2015) on factors associated with high performing hospitals, one of the major themes was that of expertise driven practice, in which experienced clinicians and middle management are given the level of flexibility and autonomy needed to achieve targets, and carry out quality improvement projects as they see fit, rather than, as found to be a practice in poorer performing hospitals, forcing middle management to focus on compliance to rules and protocols. This autonomy has been shown in several studies to allow middle management to continuously refine protocols and clinical pathways based on years of expertise, and allows them to work with passion and creativity in their field of expertise (Keroack et al., 2007; Curry, Spatz, Cherlin, Thompson, Berg, Ting, Decker, Krumholtz and Bradley, 2011; Bradley, Curry, Webster, Mattera, Roumans and Radford, 2006b; Alagbonsi, Afolabi, Bamidele and Aliyu, 2013).

Community integration

A patient-centred approach to healthcare is becoming a more central theme in bringing about quality patient care (National Academies of Sciences, 2018; Marston, Hinton, Kean, Baral, Ahuja, Costello et al., 2016). According to a systematic review on community participation in healthcare, while there is a lack of quantitative data on the effect of community integration on quality of care, there is a wealth of case study and quantitative data advocating for better community participation and integration. Healthcare initiatives promoting different aspects of healthy living and prevention of disease may result in not only improved health in the community, but possibly better understanding of healthcare processes by the community (Haldane, Chuah, Srivastava, Singh, Koh and Seng, 2019). Using statistics of the health status of the community that the hospital serves, managers need to collaborate with community leaders to educate the community. This is often seen as an optional extra, rather than a core function of hospitals. However, the burden of both communicable and non-communicable disease in Limpopo, and the rest of the world can be drastically reduced through education on hygiene practices, infant feeding, HIV, and the prevention of non-communicable diseases such as diabetes mellitus and hypertension (Murray, 2012). Both the NCS and the policy on management of public hospitals emphasise the importance of community involvement and community empowerment. Responsibility is also placed on the hospital boards to ensure this alliance (Department of Health, 2012; Department of Health, 2011). In addition, the plans for NHI bring a much stronger link between hospitals and their communities to change the focus towards preventative rather than curative medicine (Department of Health, 2013). If the community becomes empowered to care for themselves and prevent disease, it will ultimately result in a healthier population less reliant on the health system (Murray, 2012).

2.2.2.1.2 Building and maintenance of human resources

For any hospital to run well, it needs human resources. Lack of authority by senior management of the hospital to hire and fire staff adversely affects hospital performance (Mosadeghrad, 2014), as they are unable to choose staff that buy into the vision and organisational culture of the hospital. To attract the best staff for the institution, the management needs to be able to offer them a competitive, attractive package, and an attractive working environment. This filters down to the general running of the hospital and factors affecting employee satisfaction such as working hours and work load (Sharifi and Saberi, 2014). The importance of keeping staff employed long term is that it creates stability, and communication improves with long-standing relationships (Taylor et al., 2015). An Indian study focussing on primary health care facilities, found that the highest performing facilities had more health care workers, better trained staff, and the staff, on average, worked at the facility for a longer time (Kashyap, 2016).

Sufficient budget needs to be assigned to ensuring that there is a robust system in place to train staff adequately (Landman, 2013). The NSDA charter put plans in place to ensure adequate training of staff (Department of Health, 2013). However, budget constraints in the DOH have delayed the roll out of adequate training.

Multiple qualitative studies have shown the link between better salaries and bonus incentives for good performance, and better individual employee performance, as well as better efficiency. The same studies also found varying degrees of links between salary incentives and hospital performance, and employee retention (Aberese-Ako, van Dijk, Arhinful and Agyepong, 2014; Nwude and Uduji, 2013; Atambo, Kabare and Munene, 2013; Awases, Bezuidenhout and Roos, 2013).

Good systems of monitoring compliance to set targets assists in recognising and rewarding deserving staff for good performance (Curry et al., 2011). On the other hand, rigid frameworks within which the managers and staff must operate in order to achieve certain indicators can result in a lack of flexibility (Mosadeghrad, 2014), so a balance needs to be struck.

The importance of local leadership development was raised in more than one study. Identifying potential leaders and training them to maximise their potential was a theme in high performing hospitals. The advantages of local leadership include the pre-existing network that the local manager has formed, as well as a standing shared vision with the organisation. (Martiskainen, 2017; Kramer, Schmalenberg, Maguire, Brewer, Burke and Chmielewski, 2008). Local leaders, rather than externally sourced leaders were said to be better able to encourage the staff and carry projects forward (Kotagal et al., 2009).

One additional human resource factor that was found to affect hospital performance was that of doctors working part-time at other institutions, also described as dual practice. There are conflicting results on this. Historically, it has been practised in the public sector in particular, as a method of retaining healthcare workers by allowing them an extra source of income (Ashmore and Gilson, 2015). However, one study found that the public hospitals that do not allow their doctors to work part-time in private settings perform better, as it instils a sense of commitment to the hospital (Afsharkazemi et al., 2013). It has also been postulated that the practice does not help to retain healthcare workers in the public sector as much as initially thought. However, it is also known that dual practice is often done without official permission, and so banning it may be ineffective (Ashmore and Gilson, 2015).

2.2.2.1.3 Physical resources

More advanced hospital information systems, in particular to monitor financial and clinical performance are associated with higher performing hospitals. In addition, those with more advanced information technology systems have better clinical outcomes and better efficiency in gaining access to clinical records (Mannion et al., 2005; Afsharkazemi et al., 2013). The current South African public health infrastructure is inadequate. Poor planning and management, poor budgeting and insufficient maintenance of current infrastructure has resulted in a backlog of service to the community. Despite large amounts of money being spent on information technology, the system is not supporting the health system adequately. A system that adequately monitors and evaluates performance, and can produce data as needed, is required. The NSDA charter made plans to restructure the system to ensure better maintenance of infrastructure and stewardship of information technology (Department of Health, 2013).

The investment in resources is important in creating sustainable change, particularly in resource-poor settings. Physical resources and equipment seem to be more important, and have a bigger impact on service delivery in poorer settings (Thulth and Sayej, 2015). This may be because wealthier settings have the advantage of options if one type of equipment is unavailable, whereas in resource poor settings, the absence of one vital piece of equipment may cripple service delivery. Ross and Venkatesh (2015) noted that patient satisfaction is improved by better aesthetics in the physical appearance of the hospital, and that an opinion is formed on the quality before any healthcare is even provided.

On the contrary, one study reported that, rather than physical resources such as medical equipment being important for good performance, the presence of good performance influenced the availability of physical resources. For example, good financial management created more opportunity to invest in equipment, and wise maintenance and service planning resulted in longevity of the equipment purchased. Without these, having equipment will not help performance in the long term, and is more likely to contribute towards irregular service (Afsharkazemi et al., 2013).

2.2.2.1.4 Effective Performance Monitoring

Performance monitoring in this section refers to the performance monitoring of the institution. The policy on management of public hospitals emphasises the importance of accountability of the government and hospital managers to the communities. The communities should be aware of what they can expect from the hospitals. This requires performance monitoring in order to give an account on their performance (Department of Health, 2012).

In order to attain the quality after which they strive, the better performing hospitals make use of quality improvement measurement tools, goals and benchmarks (Jha and Ebstein, 2010; Visser et al., 2012; Glickman, Baggett, Krubert, Peterson and Schulaman, 2007; Mannion and Davies, 2003; Mannion et al., 2005). In South Africa, all government hospitals are guided by, and their performance assessed by the NCS (Department of Health, 2011). The difference between hospitals therefore lies in their use of the Standards, and their efforts to improve their performance.

A study by Tsai, Ashish, Jha, Gawande, Huckman, Bloom and Sadun (2015) investigated the relationship between quality of care and management practices of managers at hospitals in USA and UK. It was found that hospital boards that utilised quality metrics to determine their practices and focuses of quality improvement showed better management in the areas of target setting ($p<0.001$) and operations ($p<0.01$), which were two variables that made up an overall assessment of hospital management.

2.2.2.2 Personal managerial factors associated with hospital performance

A common theme amongst the majority of literature on factors associated with hospital performance is that of the role of managers, and the effect that good management and effective leadership have on hospital performance. A study by Afsharkazemi et al.(2013) produced key themes for hospital performance. Statistical fuzzy logic was utilised to grade the importance of different factors associated with hospital performance. Managerial factors were found to have the most influence on hospital performance. The next section is going to investigate those managerial qualities and characteristics which include focus on quality, leadership structure, and leadership skills.

2.2.2.2.1 Focus on Quality

The degree to which management and hospital board focuses on quality in the hospital has been shown to correlate with hospital performance. The simple presence of a board quality committee and quality improvement team are linked to better performance (Baker, Denis, Pomey and MacIntosh-Murray, 2010; Jha and Ebstein, 2010), and those boards that spend more than 20-25% of their time on quality were found to have superior performance (Baker et al., 2010; Tsai et al., 2015). Despite this emphasis on the importance of quality, high performing hospitals are typically unhappy with their current level of quality of care, citing the gap between the status quo and their goals, rather than comparing themselves to peer institutions. In contrast, the poorer performing hospitals tend to focus on what they are doing

well, often pointing to awards they have received, and denying or ignoring any indications of below average performance (Keroack et al., 2007).

An Iranian study done to identify 'factors affecting the hospital employees' productivity from the viewpoint of hospital managers', using the decision-making trial and evaluation laboratory (DEMATEL) technique of analysing intricate problems. Four clusters of factors affecting employee productivity were identified, namely job and motivational factors, leadership and management styles, employee personal factors, and environmental factors. Overall, 'employee attitude towards the organisation' had the largest impact on employee productivity, while the cluster of leadership and management styles had the biggest overall impact on productivity (Feili, Khodadad and Ravangard, 2018). This is finding is in agreement with other studies which have consistently identified leadership and management styles as one of the main factors associated with hospital performance and quality of care. The top factors amongst the leadership and management skills cluster were 'involving employees in the decision-making processes' and 'delegation of authority to the employees' (Feili, Khodadad and Ravangard, 2018). This points towards advocating for a leadership style that encourages employee participation in quality of care, rather than a paternalist style of leadership.

2.2.2.2.2 Leadership Structure

Leadership structures refer to the environment in which hospital managers work, as well as the system of authority in which they function. A lack of objective criteria for hiring hospital managers, as well as lack of job security of the managers, affect stability in the hospital (Mosadeghrad, 2014).

A balance between level of authority and level of responsibility is important, such that those with higher levels of responsibility should have higher levels of authority given to them, for example, by the DOH. This includes authority to hire and fire middle level managers (Afsharkazemi et al., 2013).

Organisational structure in top performing hospitals is designed in a way that avoids conflict. Having a single head of the institution that both the hospital management and the clinical management report to minimises conflict. If there is separation, the leaders of the different sections need to work in close partnership with a common goal (Keroack et al., 2007).

Top performing institutions practise leadership in which there is central control and central development of strategies and target measurement, but strategies for improvement are decentralised to middle management- namely unit managers and departmental heads

(Keroack et al., 2007). However, a UK study on employees in NHS found that giving hospitals more autonomy in terms of financial and organisational management did not result in better hospital performance (Verzulli, Jacobs and Goddard, 2018), and so the balance between autonomy and central control needs to be found.

The most effective organisations, both in and out of healthcare, in terms of quality and financial success, are those in which the leadership team has a common goal and purpose. The link between cost and quality are understood. Chief Financial Officers (CFOs) traditionally look at inputs such as staff, equipment and consumable supplies to try to reduce costs. However, there is a move towards better cost reduction models, because of the improvement in quality and cost efficiency when CFOs are engaged in the clinical goals of the hospital. Hospitals are more likely to attain significant improvements in indicators such as mortality, safety, patient satisfaction and clinical outcomes, not to mention the improvement on expenditure, when CFOs are actively involved in quality improvement. When the CFO combines their understanding of the clinical need for quality with their financial expertise, they can innovatively adjust the spending and investment in the hospital (Bisognano, 2009).

In recent times, there have been many scholars advocating for clinical leadership, and studies showing that it is associated with top performing hospitals, and that hospitals led by managers with a clinical background perform better (Goodall, 2011; Sarto and Veronesi, 2016). It means that health care workers, usually nurses and doctors take on management and governance roles. The reasons for this trend are the following:

1. That performance will be enhanced if the hospital is led by the people involved in clinical care, as they would carry a deeper understanding of patient care. It is also thought that having clinicians in leadership will assist in performance improvement through the use of performance targets and systems to monitor and achieve them (Rotar, Botje, Klazinga, Lombarts, Groene, Sunol and Plochg, 2016; Groene et al., 2013).
2. It removes the tension that commonly arises between clinical professionals and management due to what is termed ‘professional bureaucracy’ caused by clinicians attaining their authority from their clinical experience, and not from the hierarchy (Rotar et al., 2016).

In South Africa, as NHI implementation is planned and initiated, the government is looking at using clinical leadership to decentralise the system without compromising quality and efficiency. With the increase in influence of clinicians in leadership, they need to be aware of and balance this influence with greater accountability, stewardship of funding, and adherence to the departmental guidelines (Doherty, 2013). The move towards hiring CEOs with a clinical background is in keeping with this plan (Department of Health, 2012).

According to Doherty (2013), effective clinical leaders have, in addition to their expert knowledge, certain characteristics that are advantageous in a hospital management setting. They tend to approach problems with a 'micro-level' approach, looking at the details, and not only the bigger picture. They usually make use of persuasion and use of evidence to bring about instruction and change. They are trained to take responsibility for patients, and for the decisions regarding their care. Monetary incentives for clinical management are small, so clinicians tend to take up leadership positions for the benefit of their clinical environment, rather than their own personal gain. What is needed, is for clinicians to contribute to organisational transformation, and traditional general managers need to focus and learn to understand the hospital as a medical establishment, and not just as a business. A systematic review examining the impact of clinical leadership on hospital performance supported the move towards clinical leadership, with most studies showing a positive effect, and only a few indicating a negative effect specifically on financial and social performance of hospitals (Sarto and Veronesi, 2016). In contrast to the above, one study found that while there was no statistical difference between hospitals that had clinical leaders and those who did not, they did find that those that had 'physician champions' to focus on different aspects of quality improvement did perform better (Vina, Rhew, Weingarten and Chang, 2009). However, 16 of the top 21 hospital in USA are clinician lead, which is a convincing statistic in favour of clinical leadership (Goodall, 2011).

2.2.2.2.3 Leadership skills

The NCS for Health Establishments in South Africa indicate a requirement for senior management positions to be filled by 'persons with appropriate competencies, qualifications, experience and knowledge' (Department of Health, 2011). This was backed by a decision to instate 37 new CEOs with medical backgrounds as a way of remedying the dire problems in Limpopo province during the period when the Limpopo DOH was placed under administration (Department of Communications, 2014). This meant that all decisions, including decisions on management of finances were made at a national level.

Currently, in South Africa, there is a limited range of qualifications that can be undertaken to study hospital management. These include

- Master's in Public Health, Health policy and management.
- Master's in Business Administration, Health management
- Diploma in Public Health -Health and Hospital Management
- Diploma in Health Systems Management

- Short courses (Basu, 2014)

These qualifications may offer the necessary theoretical learning needed to equip hospital managers, but offer limited experiential learning. Training for hospital managers in USA, Hong Kong and Australia include extensive experiential learning. There are proposals for new qualifications in South Africa to fill this gap in experiential learning, in particular through the South African College of Medicine's Public Health school (Basu, 2014).

In Namibia, it was found that nursing managers' performance influenced registered nurses' performances. Lack of managerial, conceptual and human skills were cited as reasons for poor performance of nursing managers, and consequently, of the nurses working under them (Kamati, Cassim and Karodia, 2014). Another study, also set in a third world country also cited lack of experience and knowledge of managers as factors that negatively affect hospital performance (Mosadeghrad, 2014). This may be as a result of many managers being appointed because of long service, rather than leadership or managerial skills (Pillay, 2010). Coupled with widespread corruption and financial mismanagement in South Africa, this has resulted in a failure to deliver quality health care for all (Managa, 2012).

Certain 'leadership personalities' were found to be associated with the top performing hospitals. Leaders should still be able to inspire their teams, and engage them to work together to achieve the goals of the hospital. This is transformational leadership, which contrasts with transactional leadership, where productivity of the team is encouraged through bargaining, rather than inspiration (Baškarada, Watson and Cromarty, 2017) However, other studies, including a systematic review by Lega, Prenestini and Spurgeon (2103) showed that leaders who are more methodical, and use logical, clear-cut methods of communication and instilling order are found in high performing hospitals, rather than unpredictable, charismatic, typically 'popular' leaders (Mannion et al., 2005; Kakooza et al., 2015). Therefore, leaders need to find the balance between being inspirational to their teams, but at the same time predictable and constant in their leadership.

Hospitals which had managers and CEOs that were visibly involved, hands-on, zealous about quality, and interested in the day to day running of the hospital performed better (Sexton, Adair, Leonard, Frankel, Proulx, et al., 2018). Sexton, et al. (2018) found that hospitals whose leadership conducted regular walk-abouts, and gave feedback on them had better safety scores (Cohen′s d range 0.34-0.84), and higher employee engagement (Cohen′s d range 0.02-0.76), indicating that the mean effect of walk-abouts with feedback resulted in

improved safety scores and higher employee engagement. Curry et al. (2018) conducted an interventional study, which showed an improvement in hospital culture after managers being trained on, amongst other aspects, the importance of accessibility, visibility and responsiveness to their clinical team. One method of ensuring visibility of management is through 'walk-abouts' through the hospital (Sexton et al., 2018). Managers who look for quick fixes to the current problems without addressing the bigger picture problems in the institution do so because of lack of insight which might be gained by being more 'in-touch' with the hospital (Mosadeghrad, 2014).

2.3 Conceptual Based Literature Review

A model by Parand et al. (2014) describes components amongst hospital managers found to be associated with high quality and safety. The model has three parts: input, processes and output, as shown in Figure 1 below.

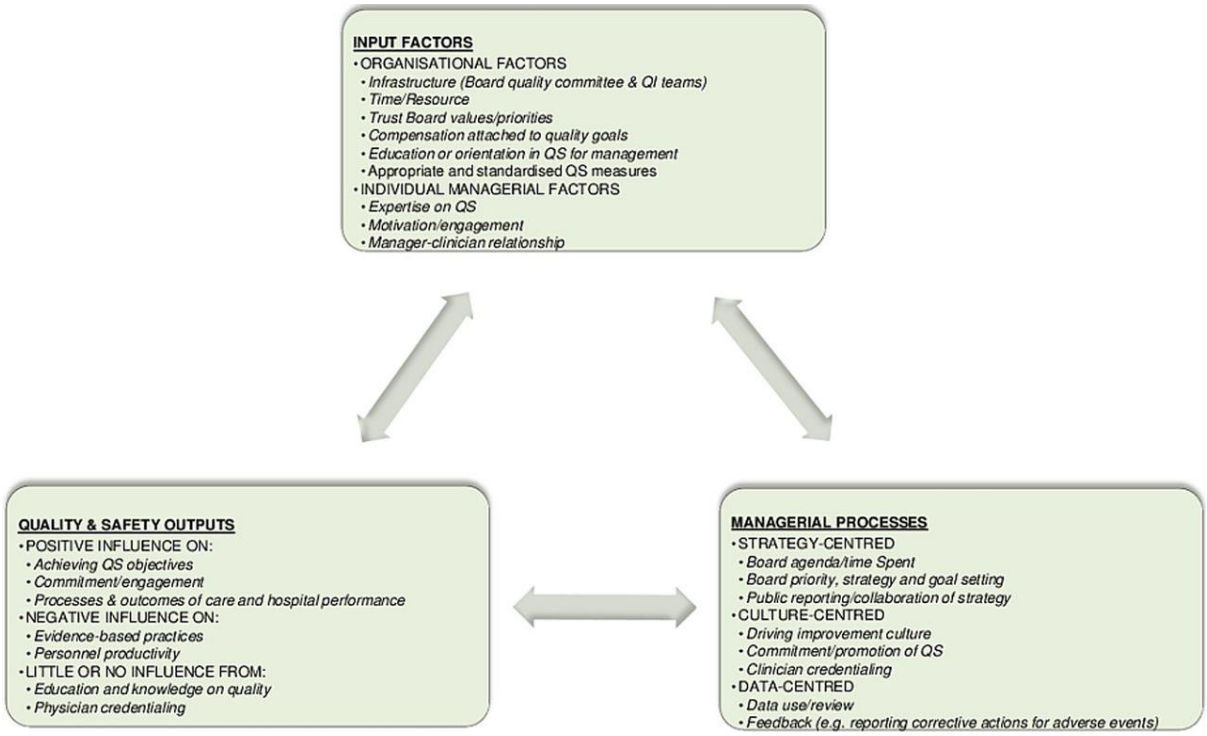

Figure 1: Quality management Input, Process, Output Model (Parand et al., 2014)

The input factors lay a foundation for the managerial processes which need to occur to produce quality outcomes. The managerial processes were then categorised under strategy-centred, culture-centred and data-centred processes. The managerial processes then contribute towards the outputs of good quality care and patient safety. The input factors, and managerial processes shown in this model to result in improved quality of care and patient safety formed the basis of the data collection tool.

In terms of input factors, the model stipulates that certain organisational and individual managerial factors should be put in place to reach the end goal of quality care and safety. Organisational factors that need to be in place are a board committee, time and resources dedicated to hospital performance and safety, and a system in place for performance monitoring and rewards for good performance. As a result, the questionnaire includes a section on organisational factors and asks questions pertaining to the above. Individual managerial factors that are necessary 'inputs' were assessed by asking managers questions about their level of training and expertise, and all respondents questions on the teamwork and relationships between managers and clinicians, as well as on the perception of the non-managerial respondents on the level of motivation and dedication of their managers.

The model describes managerial processes that need to occur, based on the foundation of the input factors. These processes are the practicalities that need to occur within the board, and in the running of the hospital. As such, questions based on these required inputs and processes were asked in order to assess hospitals' closeness with the model, in order to assess the likelihood of the hospitals having high quality of care. These include practicalities such as the frequency of meetings, time spent on quality improvement, and the involvement of clinicians in quality improvement.

The premise of the model is that the outputs of hospital quality and safety should flow from the above foundation, and then have a bi-directional flow, resulting in better outputs, and those outputs in turn easing the processes and inputs of the hospital.

2.4 Conclusion

This chapter examined the literature surrounding managerial factors associated with hospital performance, and utilised the model by Parand et al. (2014) on 'The role of hospital managers in quality and patient safety' as a conceptual framework.

Chapter 3

Research Methodology

3.1 Introduction

In this section, the chosen study design will be described, as well as the reasons for the choice of design. The various aspects of the study setting will be outlined, to give the reader an understanding of the environment in which the study took place, as well as the population which was studied. The method of data collection and analysis will then be explained. This will be followed by ethical considerations taken in the study, the scope of the study, and finally the plan for dissemination and implementation of the results of the study.

3.2 Study Design

The design chosen is a quantitative, non-experimental, cross-sectional descriptive survey study.

3.3 Study Setting

The study was carried out on two of the district hospitals in the municipality of Makhado in Vhembe district in Limpopo Province, South Africa, namely Elim and Siloam hospitals. (Figure 2). These two hospitals are both rural, government hospitals. They refer patients to regional hospitals, and accept referrals from surrounding clinics and health centres.

Vhembe district is the northern-most district in Limpopo. It has a population of 1 393 948 (Limpopo Provincial Government,2018). The district is divided into four sub-districts, namely Makhado, Thulamela, Mutale, and Musina (Massyn, Day, Peer, Padarath, Barron and English, 2014). Elim and Siloam are both situated in Makhado sub-district. Makhado has a population of 458778 (Limpopo Provincial Government, 2018).

According to the District Health Barometer report for 2013/2014 and 2014/2015 (Massyn et al., 2014; Massyn, Padarath, Barron and Day, 2015), Vhembe district ranked 13th out of the 52 districts in South Africa for overall performance in 2014, and 7th out of the 52 districts in 2015. This ranking is based on indicators such as mortality rates, Prevention/Elimination of Mother to Child Transmission (P/EMTCT) coverage and immunization coverage.

Elim hospital is a 328 bed hospital, making it the largest district hospital in the district. It serves a population of 16538 (Frith, 2011). Siloam hospital has 220 beds (Monticelli, Mbatha, Moyo, Ogunmefun and English, 2011). It serves a population of about 11048 (Frith, 2011).

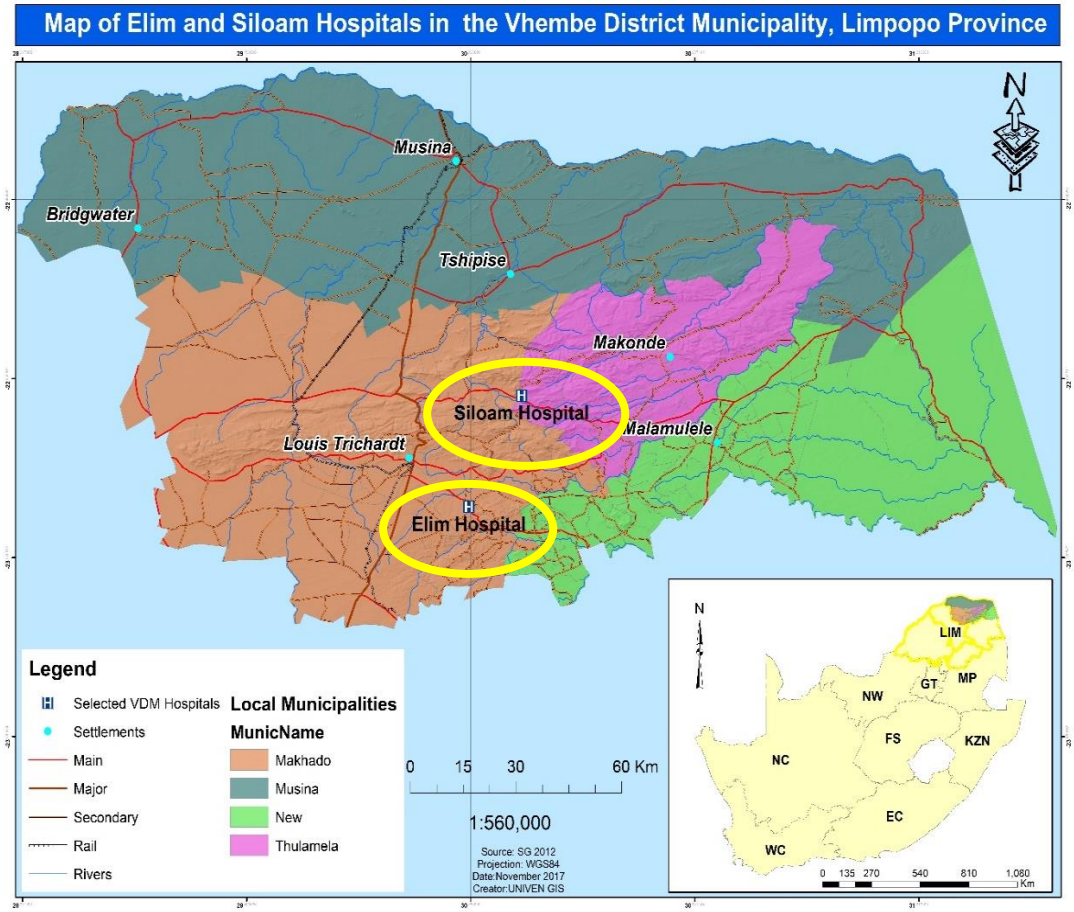

Figure 2: Vhembe district showing the location of Siloam and Elim hospitals

3.4 Population and Sampling

3.4.1 Population

The target population for the study was the managers, professional nurses and doctors of hospitals in Vhembe district (Table 2).

Table 2: Distribution of employees according to levels at Elim and Siloam hospital

POSITION	ELIM HOSPITAL	SILOAM HOSPITAL	TOTAL
Senior management	8	4	12
Operational management	22	15	37
Medical doctors	40	24	64
Professional nurses	219	144	363
TOTALS	289	187	476

3.4.2 Sampling

3.4.2.1 Sampling of hospitals

The sub-district of Makhado was randomly selected out of the four sub-districts in Vhembe. The names of the four sub districts were written in small papers and put in a container and an independent person was asked to select one. There are three district hospitals in Makhado-Louis Trichardt Memorial, Elim and Siloam hospitals. The two largest hospitals in Makhado, namely Elim hospital and Siloam hospital were then purposively selected, in order to obtain the largest possible number of respondents.

3.4.2.2 Sampling of Respondents

Total population sample was used due to the small numbers of respondents (Table 2).

Inclusion criteria:

- Employees of the hospitals who hold managerial positions
- Doctors and Professional Nurses

Exclusion criteria:

- Nurses other than Professional Nurses
- Other employees of the hospital

3.5 Instrument

A questionnaire was used for data collection. A questionnaire was chosen, because it enabled the researcher to get a wide range of specific information from the participants. It also allowed the researcher to glean objective and subjective data from the respondents.

The questionnaire has the following components: Section A Demographics; Section B Organizational factors and Section C Personal factors. There are sub-categories in each component in line with the data in the literature review. A variety of question types were used: closed-ended dichotomous questions for information such as demographics; questions that require a rating scale, utilising the Likert scale, ranging from strongly agree to strongly disagree; multiple choice questions requiring respondents to choose the option that they agree with; rank order questions requiring respondents to place statements in order of importance; as well as open ended questions in which respondents were required to answer freely in the space provided. Two questionnaires were formulated (Appendix A,B), one for managers and one for other respondents, in order to keep the answering process simple for respondents, as some questions, such as questions on their management styles and experience are only relevant to managers. More detailed information was obtained from the senior management, as one of the purposes of the study was to ascertain if certain demographic variables in the

senior management affected hospital performance. Specifically, information on clinical experience, managerial experience, managerial qualifications, and whether their position was permanent or acting were analysed. The questionnaire took about 15 minutes for respondents to complete.

3.6 Pre-Test

Pre-tests were carried out on 5 respondents: 1 doctor, 2 professional nurses, 1 member of the operational management team, as well as 1 member of the senior management team from Malamulele hospital in Vhembe district. The pre-test participants found the questionnaires easy to complete and suggested no changes. Malamulele hospital was chosen as it is a hospital in the same district. The positions are similar, and so it was an adequately neutral population on which to pre-test the instruments.

3.7 Data Collection

Appointments were made to meet with the respondents of each hospital to introduce the study to them, and request their involvement in the study. Once the appointments were made, the most convenient time for each section of respondents was identified. The senior managers were approached individually, and the doctors at their meetings. The professional nurses were approached ward by ward, which entailed four visits to each hospital- two during the day for the two weekly duty rotations, and two at night for the same, in order to target those on duty one week and the following week. To ensure that working time was not disrupted, after explaining the study to the respondents and requesting their consent, if they did not have opportunity to complete the questionnaires immediately, the researcher returned to their workstation at the end of their shift to retrieve the questionnaires. For each group, after giving the respondents the information sheet, and obtaining informed consent, the questionnaires were handed out to the respondents individually to allow them to complete the questionnaire. Respondents were encouraged to complete the questionnaires independently of each other.

3.8 Data Management

Completed questionnaires were divided into the 2 participating hospitals, and then the 3 sets of respondents- managerial staff, professional nurses, and medical doctors. Each questionnaire was then labelled ‘S’ for Siloam or ‘E’ for Elim, and M,N or D for managerial staff, professional nurses or doctors respectively, and was given a number, 1 to the total number of respondents in the given set. The responses were then loaded onto Excel spreadsheets, with each question on the questionnaire as a column, and the code, e.g. SM2

for Siloam manager number 2 in the rows. This data was then inputted into SPSS to perform inferential statistics on the data.

3.9 Data Analysis

The data from the questionnaires was analysed quantitatively using SPSS version 25. Descriptive statistical analysis provided measurements of central tendency, such as the mean, and frequencies of answers. The data collated from the questionnaires were in categorical form, with nominal data in which the respondent selected from a choice of answers, and ordinal data in the form of Likert scale questions. This ordinal data was then transformed into continuous data by grouping the responses into types (Likert etc.) of the same construct, and then finding the mean to create approximate continuous variables (Sullivan and Artino, 2013). This was done in order to perform statistical tests about the correlation and association between hospital performance, and the predictors of hospital performance, as shown by the responses on the perception of quality at the two hospitals on teamwork, relationships, staff morale, hospital quality, and leadership skills, as well as the degree to which the variance in hospital performance could be explained by the model. For this purpose, multiple linear regression and ANOVA were performed. Data gleaned from the respondents was contrasted with the data from the literature review that indicated managerial factors that influence hospital performance.

3.10 Validity and Reliability

3.10.1 Validity

Content validity

Construct validity was ensured by using the literature review to form the basis of the data collection instrument.

Face validity- subjectively the study is valid, as the study is measuring managerial characteristics which are associated with hospital performance by taking data from respondents working at those hospitals.

Internal validity

Criterion validity

- Concurrent validity- while the study used an original questionnaire, and so does not have a concurrent test to compare to, the data gleaned from respondents was based on previous studies' findings of which factors are associated with hospital performance.
- Predictive validity- the study has poor predictive validity, as while it is able to investigate managerial factors associated with better hospital performance, the findings cannot

predict future hospital performance due to the multi-factorial nature of hospital management and performance. To alleviate this, the researcher used literature both from local guidelines and from a wide range of journal articles, and focussed specifically on managerial factors. There was thus a wide base of information covered which was used in the questionnaire to glean information from the respondents.

External validity

The following was done to establish external validity:

- The use of two hospitals in Vhembe district.
- Attempted to obtain a total population sample of the managers and non-managerial respondents of the two hospitals, with questionnaires being distributed to every available and willing potential respondent.
- The wide range of type of question, ranging from closed-ended 'yes-no' questions to free answering open-ended questions provided a more holistic, and therefore more generalizable result.

3.10.2 Reliability

Reliability was ensured with the following measures:

- Efforts were made to make questions unambiguous and easy to understand.
- The pre-test was done to provide an opportunity to iron out any ambiguous questions, so that the data collected was repeatable.

Reliability was impaired by the multi-dimensional questions in the questionnaire, with several different sub-headings, which assisted in improving validity, but at the cost of reliability.

The reliability coefficient was calculated for the two questionnaires, using Cronbach's alpha coefficient. Reliability for the non-managerial questionnaire was Cronbach's alpha coefficient of 0.656, which indicates a questionable internal consistency. The reliability for the senior management questionnaire was Cronbach's alpha coefficient of 0.738 which is an adequate internal consistency.

3.11 Ethical Considerations

3.11.1 Approvals

The proposal was presented to the Higher Degree of School of Health Sciences for quality assurance, and then the University Higher Degrees Committee for approval. Ethical clearance was obtained from the UNIVEN Ethics Committee. Permission to conduct the study was requested from the Limpopo DOH Research Committee, (Appendix E), Vhembe District manager and CEO (Appendix F, G).

3.11.2 Ethical Principles

Informed consent: An information sheet (Appendix C) was given to each participant before they completed the questionnaire explaining the purpose of the study, and what was expected of them in completing the questionnaire. It emphasised that participation was voluntary, and that their identity would be kept confidential. Informed consent (Appendix D) was then be obtained to ensure that the respondents were aware of what the study entailed, and what was required from them, for those who chose to participate.

Principle of beneficence: The researcher ensured that respondents were free from harm and exploitation. This was be done by ensuring the respondents that the information they provide would not be used against them in any way. For example, one question was asked on whether staff worked officially or unofficially in the private sector, which could have been viewed as an incriminating question. The information and responses were not divulged to anyone. In addition, the benefits to the respondents were explained-specifically that the results of the study would be shared with them and their hospitals to help them to improve.

Principle of respect for human dignity-the respondents had the right to withdraw from the study at any time, and had the right to refuse answering any question they wished not to. The researcher also ensured that the study was explained to the respondents in detail.

Principle of justice- the respondents' right to fair treatment was upheld. The information given to the researcher by the respondents was kept in confidence and was not used for anything outside the study. Anonymity was also ensured by excluding the respondents' names from the questionnaires.

Rights of vulnerable subjects- the researcher did not encounter any vulnerable subjects. However, if any of the respondents had had a disability, this would have been accommodated.

3.12 Plan for Dissemination of Results

The results of this study will be disseminated to each of the district hospitals in Vhembe, as well as to the regional hospital. It will also be given to the Vhembe district DOH as a tool to assist in decision-making and choice of managers in the future. It will also be forwarded to the Limpopo provincial DOH. After the completion of the study, papers may be presented at national and international conferences on the topic. In addition, publishing the study's findings in journal articles will assist in disseminating the study more broadly.

3.13 Conclusion

This chapter described the methodology used for the study, as well as the methods of analysis and plans for dissemination of the results of the study

Chapter 4

Results

4.1 Introduction

This chapter presents the results of the study, based on the data collected from the questionnaires completed by participants at two selected hospitals in Vhembe district. The - results are presented in the form of tables and charts under the headings demographic relationships, organisational factors, and personal factors, followed by a summary of the results.

4.2 Study population

A total of 274 questionnaires were distributed, and 246 questionnaires were completed- 8 senior managerial respondents, and 238 non-managerial respondents. This was a 90% response rate overall, with a 67% response rate from managerial staff, and a 91% response rate from non-managerial staff. The estimated total population of non-managerial staff before data collection was carried out was 464. However, only 262 questionnaires could be distributed (56%), as not all members of staff were available and so they did not receive questionnaires and could not participate in the study.

4.3 Demographics

Demographic information was obtained from both senior managerial and non-managerial respondents. The majority of Siloam respondents were older than 40 years n=70 (65%) compared to n=58 (50%) at Elim hospital, and both Siloam and Elim hospitals had predominantly female 94(84%), n=88 (73%) married respondents 59 (54%) and 53 (45%) respectively (Table 3).

Table 3: Frequency table for non-managerial respondents' demographic information

	Siloam	Elim	Total
Age	**n(%)N=108**	**n(%)N=116**	**n(%)N=224**
<40	38(35)	58(50)	96(43)
>40	70(65)	58(50)	128(57)
Gender			
Female	94(84)	88(73)	182(78)
Male	18(16)	32(27)	50(22)
Marital status			
Single	36(33)	51(43)	87(38)
In a relationship	8(7)	12(10)	20(9)

Married	59(54)	53(45)	112(49)
Divorced	6(6)	3(2)	9(4)

Two (66%) of Siloam management were <40 years, compared to 1 (20%) of Elim's management. The majority 2 (66%) at Siloam, and 3 (60%) at Elim were female. All managers had some level of managerial education, with Elim managers being more experienced than Siloam's, with 5 managers (100%) at Elim compared to 1 manager (33%) at Siloam having at least 5 years' experience. All (3) of Siloam's management had worked in Siloam at their previous position, and were now acting in their managerial position, compared to only 1 (20%) of Elim's management working at the same hospital previously, with 3 (60%) of their management having permanent positions (Table 4)

Table 4: Frequency table of demographic information of senior managers at Siloam and Elim hospitals

		Siloam	Elim	Total
Age		**n(%)N=3**	**n(%)N=5**	**n(%)N=8**
	<40	2(66)	1(20)	3(37.5)
	>40	1(33)	4(80)	5(62.5)
Gender				
	Female	2(66)	3(60)	5(62.5)
	Male	1(33)	2(40)	3(37.5)
Marital status				
	Single	1(33)	0(0)	1(12.5)
	Married	2(66)	5(100)	7(87.5)
Managerial education				
	Diploma	1(33)	3(75)	4(57)
	Undergraduate	2(66)	1(25)	3(43)
Managerial experience				
	<5years	2(66)	0(0)	2(25)
	5-10years	0(0)	3(60)	3(37.5)
	>10years	1(33)	2(40)	3(37.5)
Clinical experience				
	None	1(33)	2(40)	3(37.5)
	<5years	0(0)	0(0)	0(0)
	5-10years	1(33)	0(0)	1(12.5)
	>10years	1(33)	3(60)	4(50)
Job prior to current				
	Here	3(100)	1(20)	4(50)

Elsewhere	0(0)	4(80)	4(50)
Post permanent/acting			
Acting	3(100)	2(40)	5(62.5)
Permanent	0(0)	3(60)	3(37.5)

4.4 Organisational factors

Questions were asked under the headings positive organisational culture, building and maintenance of human resources, and physical resources. These questions were aimed at determining the effectiveness of the hospitals as shown by their ability to work together in a healthy, productive environment, as well as the hospitals' ability to maintain human and physical resources.

4.4.1 Positive organisational culture

Respondents were asked if they were aware of their hospital's history, and whether they thought that managerial practices were affected by this history. All the senior management agreed that they were aware of the history of the hospital, compared to 65% (n=73) and 46% (n=58) of non-managerial respondents at Siloam and Elim respectively. Of note, a large percentage (38%, n=48) of Elim non-managerial respondents responded neutrally (Figure 3). There was a near normal distribution in responses by Siloam non-managerial staff to whether management was affected by history and traditions, with a similar distribution of answers by Elim non-managerial respondents, again, with a large proportion (36%, n=44) of neutral answers. Managers at both hospitals responded polarly, with some disagreeing, and some agreeing to the statement (Figure 4).

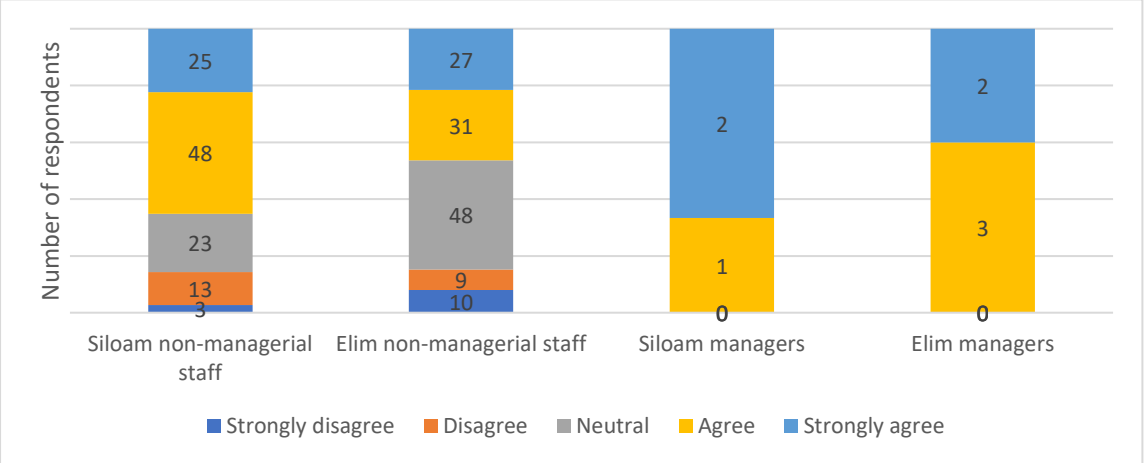

Figure 3: Respondent awareness of their hospital's history

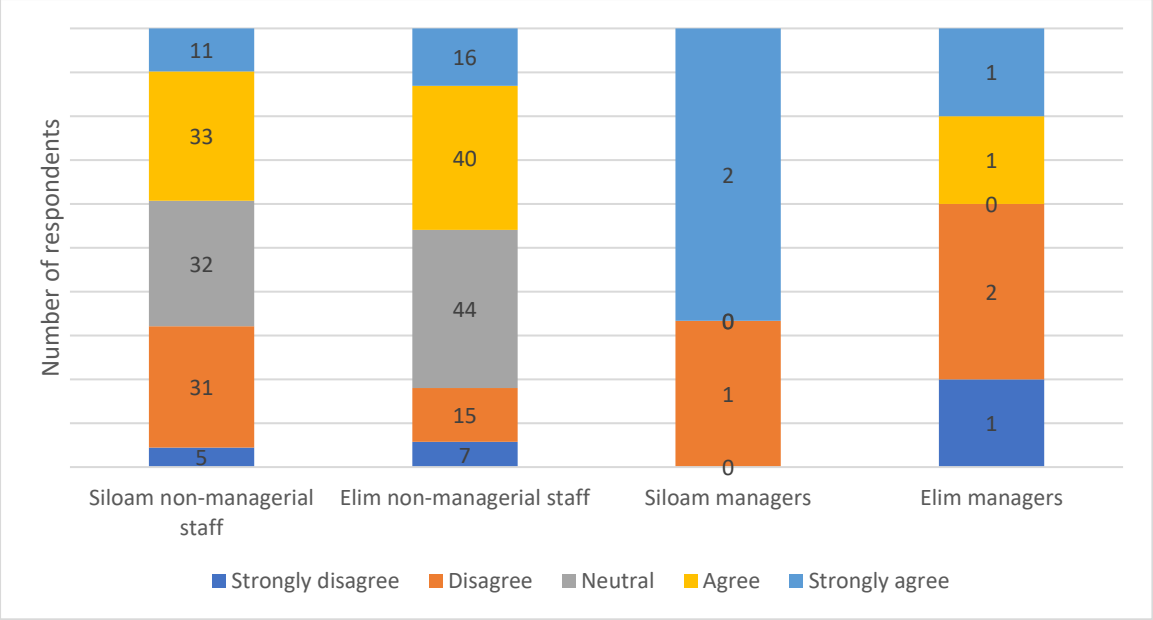

Figure 4: Opinions on whether management approach in their hospital is affected by its history and traditions

Respondents who agreed that their hospital was affected by its' history gave examples. Elim respondents mentioned tribalism, and the missionary background of the hospital as examples. Siloam respondents spoke of the local chief and royalty playing a substantial role in decision making in the hospital.

Teamwork

Respondents answered Likert scale questions on the quality of teamwork in their hospitals. The Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree). Respondents were asked three questions- if they thought teamwork between members of senior management; between senior and operational management; and between senior management and non-managerial staff was good. Sixty-six percent (n=2) of Siloam senior management, and 80% (n=4) of Elim senior management agreed that teamwork between themselves was good, compared to 72% (n=81) and 60% (n=74) respectively for the non-managerial respondents. The remainder of senior management for both hospitals responded neutrally (Figure 5-7).

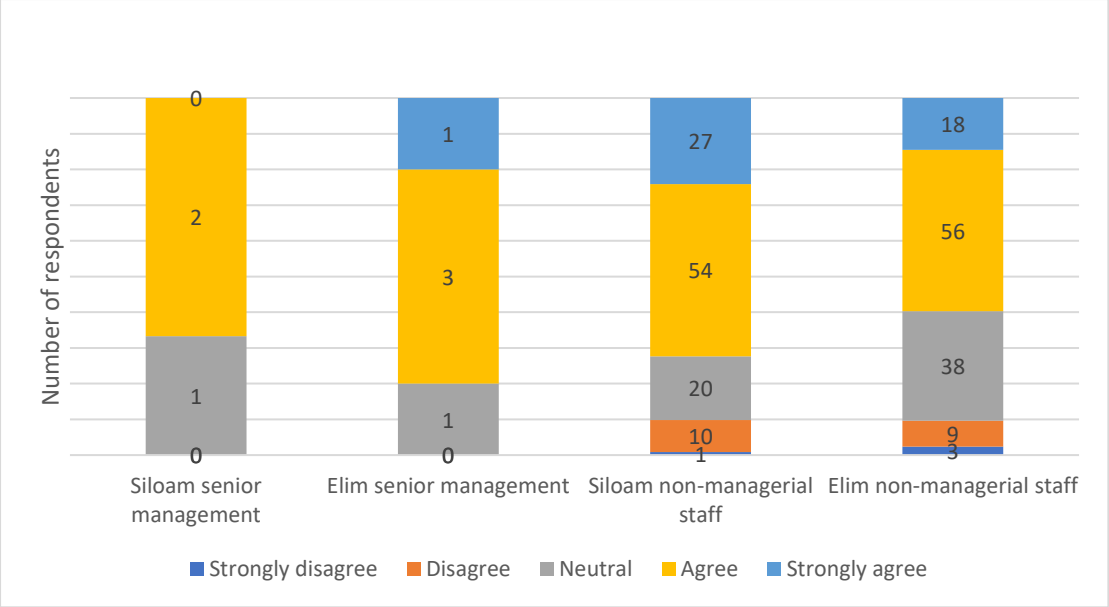

Figure 5: Opinions on whether teamwork between members of senior management is good

Sixty-six percent (n=2) of Siloam senior management and all of Elim senior management thought that teamwork between themselves and operational managers, and between themselves and non-managerial staff was good. Seventy percent (n=78) and 68% (n=84) of non-managerial staff at Siloam and Elim agreed that teamwork was good between senior management and operational managers, and slightly less agreed for non-managerial staff- 51% (n=57) and 55% (n=68) respectively. 29% (n=32) of Siloam respondents and 33% (n=41) of Elim respondents responded neutrally about teamwork between themselves and senior management.

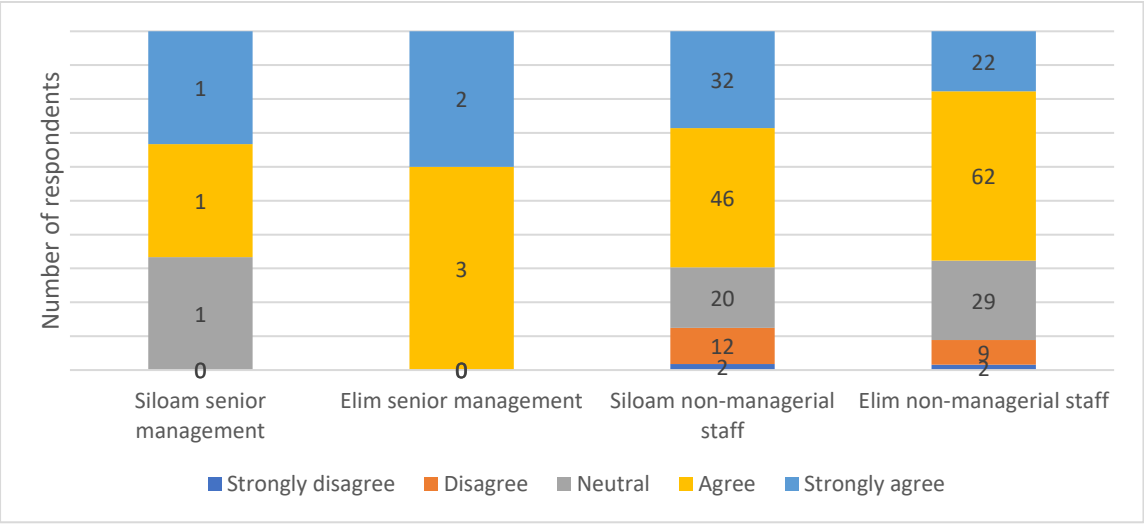

Figure 6: Opinions on whether teamwork between senior management and operational management is good

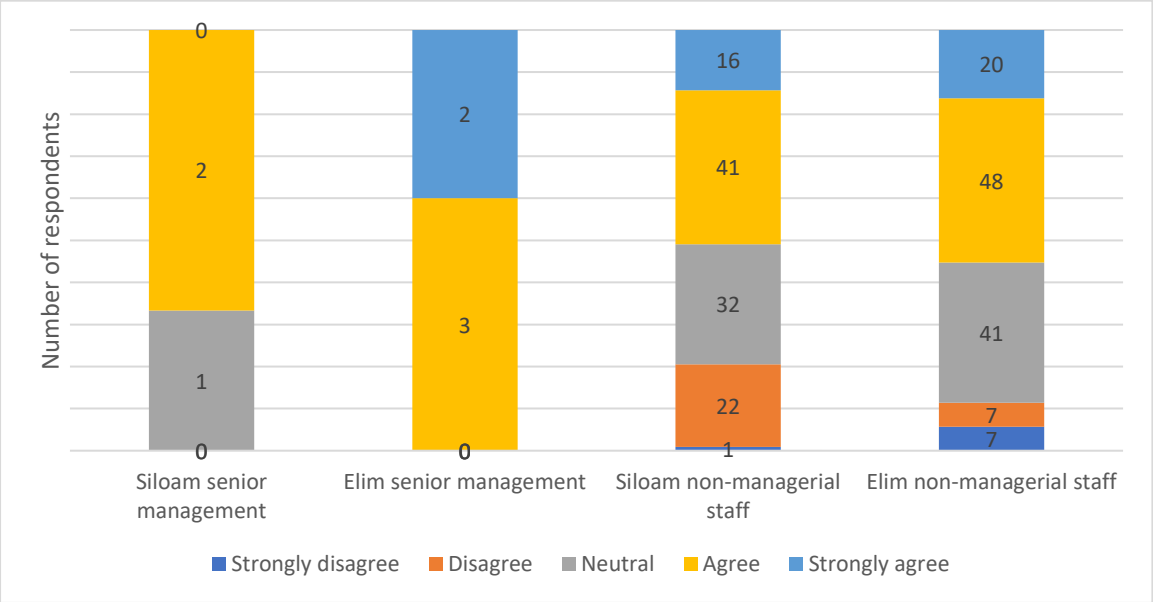

Figure 7: Opinions on whether teamwork between senior management and the non-managerial staff is good

Respondents were then asked if they though meetings were productive and necessary. All of Siloam senior management agreed, compared to 71% (n=79) of their subordinates. In Elim, only 40% (n=2) of managers agreed that meetings were productive and necessary, with the remainder answering neutrally; compared to 75% (n=92) of their subordinates (Figure 8).

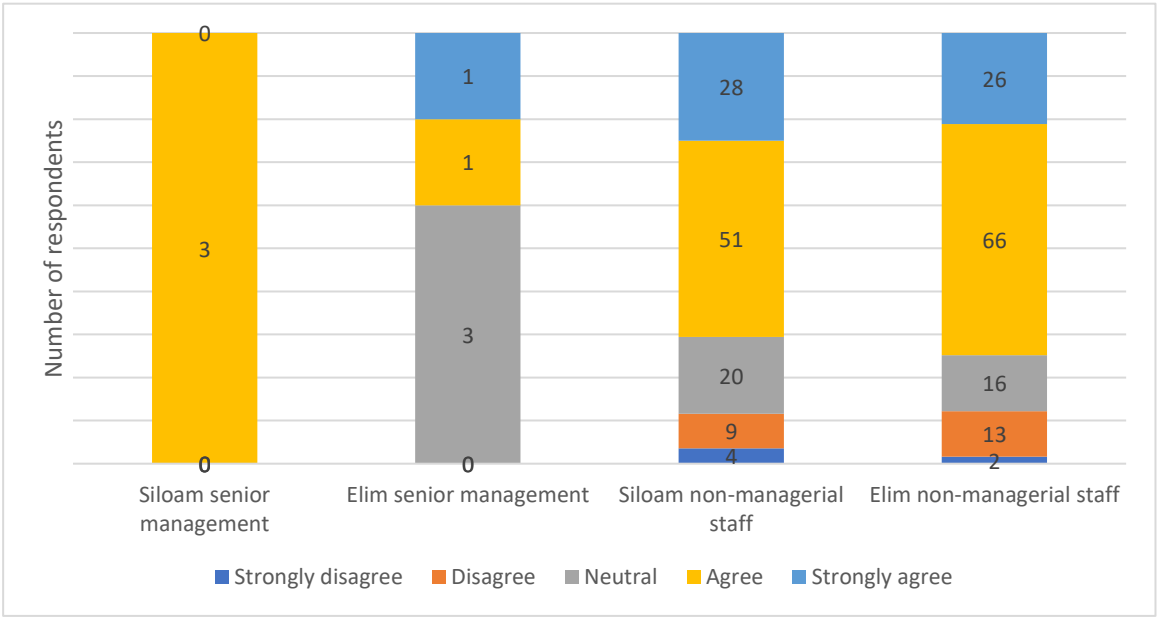

Figure 8: Opinions on whether meetings are productive and necessary

The remainder of the questions under teamwork were different for the two groups of respondents. The following charts demonstrate the non-managerial staff's responses to questions on teamwork. Fifty- two percent 52% (n=58) of respondents at Siloam, and 42% (n=51) at Elim agreed that senior management was understanding of their difficulties.

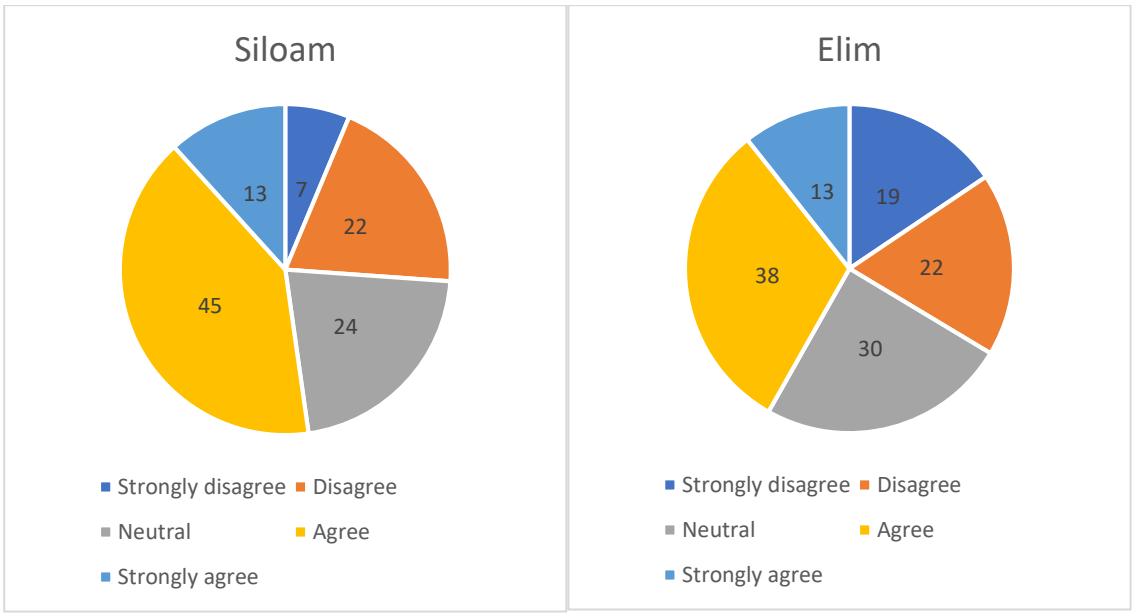

Figure 9: Opinion on whether senior management is understanding of difficulties they face in the workplace

Non-managerial staff were then asked if they had ever participated in a quality improvement project, and if they had, by whom it had been initiated. Of those who had been involved in a quality improvement project, (82% (n=40) and 80% (n=37) at Siloam and Elim respectively), their involvement had been initiated by senior management rather than themselves (Figure 10).

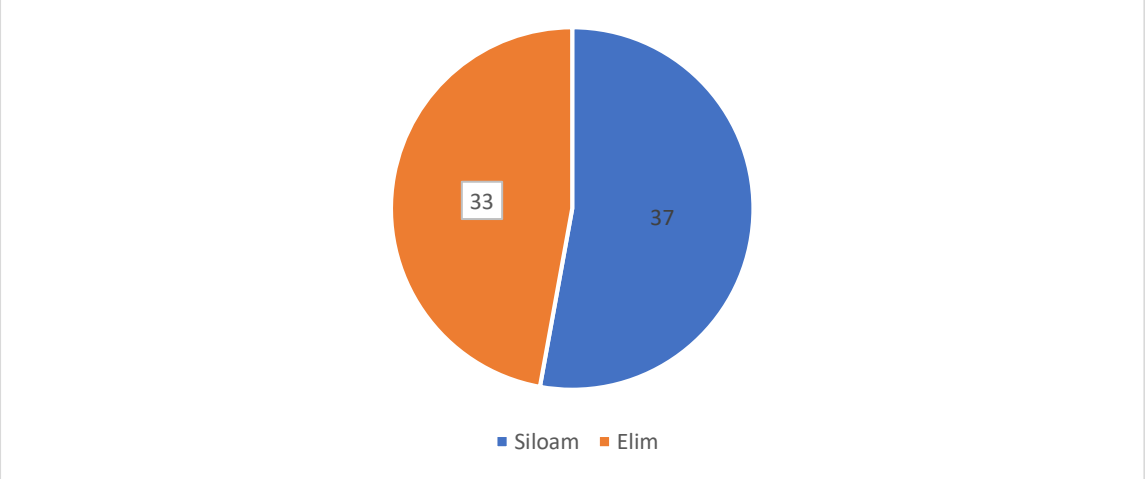

Figure 10: Percentage of respondents involved in quality improvement project

Senior management respondents answered questions on the meetings that they held. Siloam managers had more frequent meetings than Elim (weekly, compared to 80% (n=4) of managers at Elim meeting monthly), and had slightly better attendance (Figure 11,12).

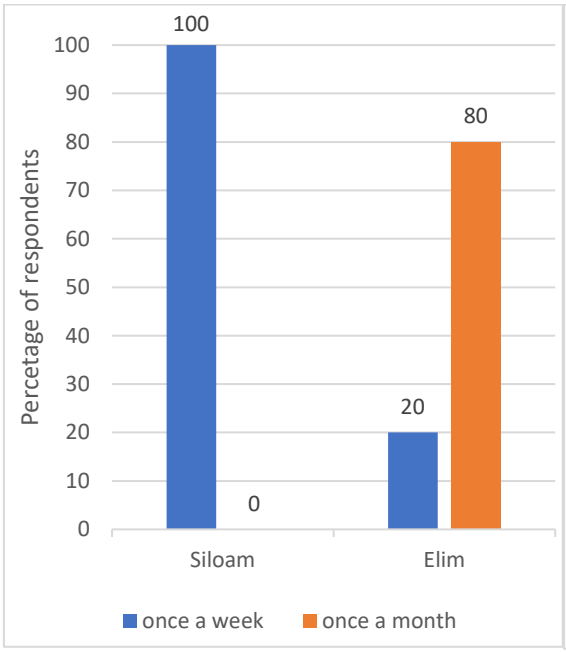

Figure 11: Meeting frequency

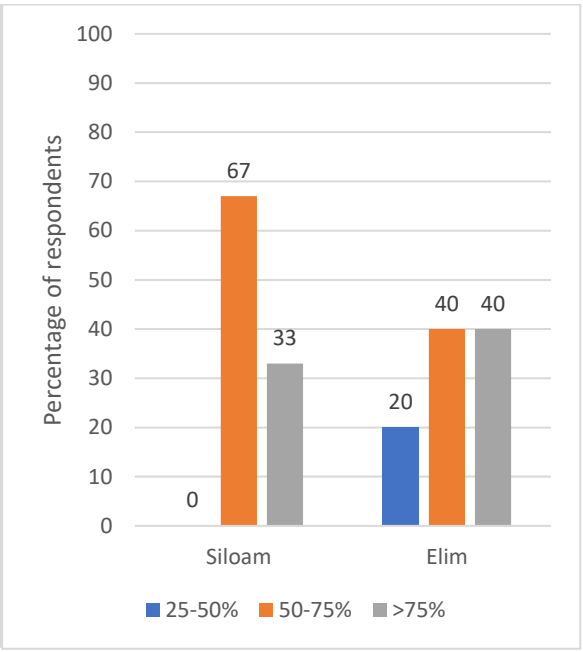

Figure 12: Meeting attendance

Senior management was then asked to rank, in order of importance, three statements. At both hospitals, NCS targets were ranked the highest (Figure 13).

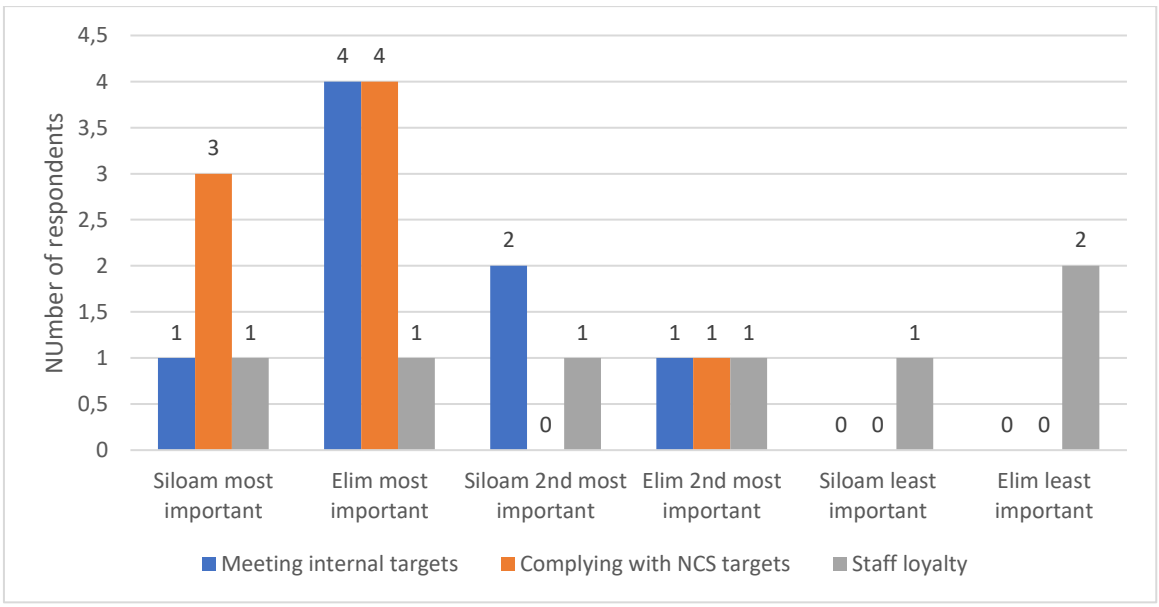

Figure 13: Senior management ranking of importance of meeting targets and staff loyalty

In both hospitals, on average, senior management scored the teamwork higher than their subordinates scored them (Mean answers Siloam 3.84 vs 3.74; Elim 4.10 vs 3.68) (Figure 14).

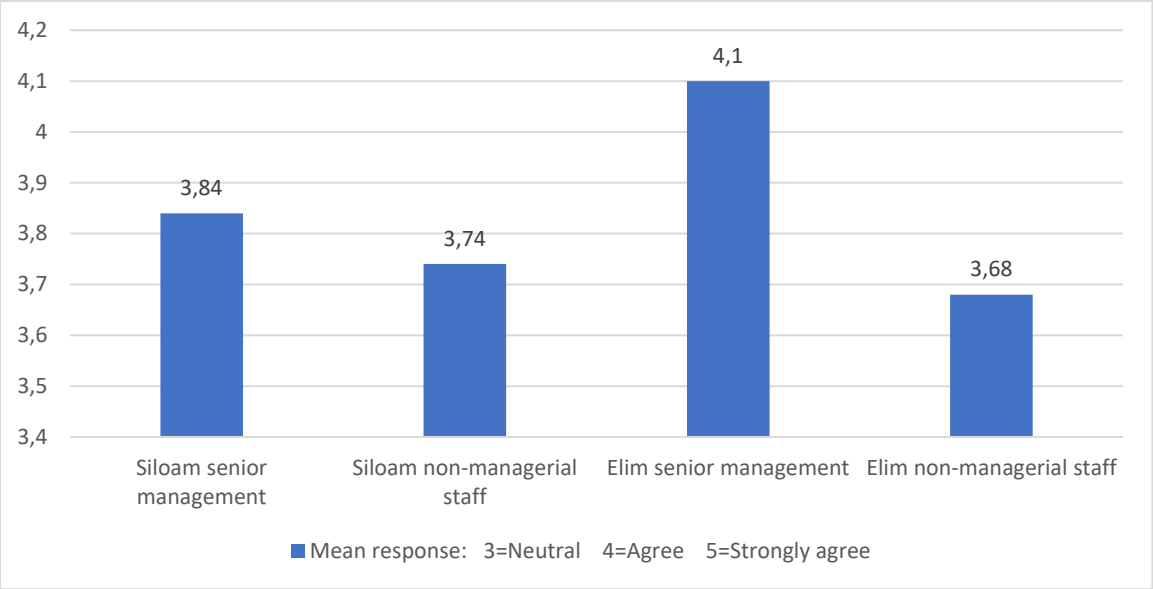

Figure 14: Mean responses on quality of teamwork

Relationships

Both senior management and non-managerial staff at both hospitals rated the communication and relationships between management and subordinates as good (mean responses on the Likert scale were all above neutral). However, 57% (n=64) of non-managerial staff at Siloam and 53% (n=64) at Elim either agreed or strongly agreed that management gave preferential attention to certain members of staff (Figure 15).

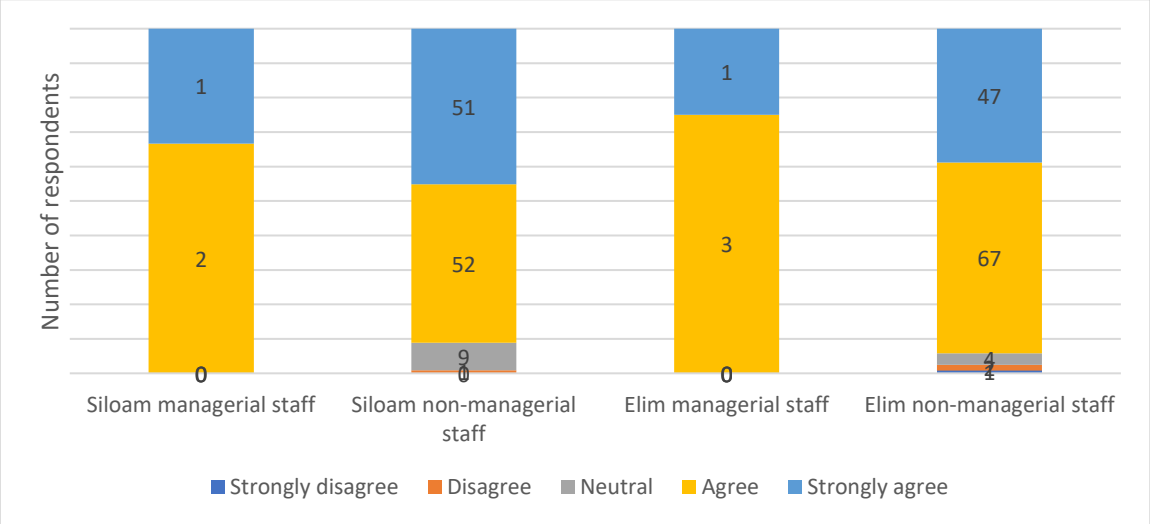

Figure 15: Opinions on whether communication between management and non-managerial staff is good

Staff morale

Just over 5% (n=6) of non-managerial respondents at Siloam Hospital said that they were unhappy working at that hospital (responded with disagree or strongly disagree), whilst 9.2% (n=11) at Elim hospital were unhappy. This is in marked contrast to the senior managerial responses at both hospitals, where all Siloam respondents stated that they were very happy working there (responded strongly agree), whilst Elim senior managerial respondents all responded with neutral or better. Amongst the non-managerial respondents, 64.9% (n=72) at Siloam stated that they thought they would be working there in 5 years' time, compared to 63.6% (n=75) of Elim respondents. The senior management group at Siloam all agreed or strongly agreed with the statement that they would be working there in 5 years' time, compared to 75% (n=3) of Elim managers, with the other 25% (n=1) strongly disagreeing with the statement (Figure 16,17).

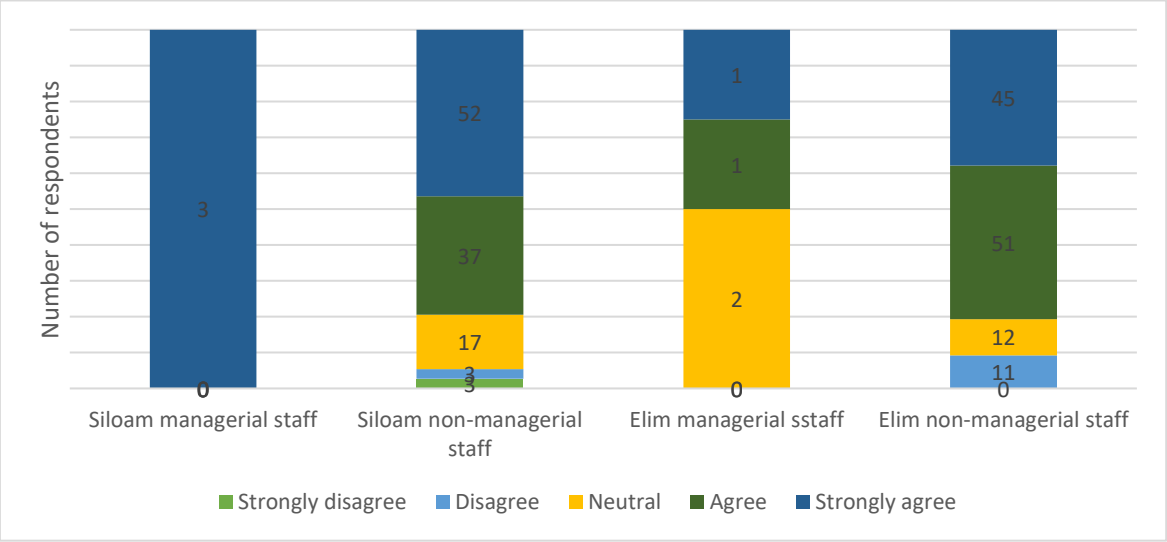

Figure 16: Opinions on whether respondents enjoy working at this hospital

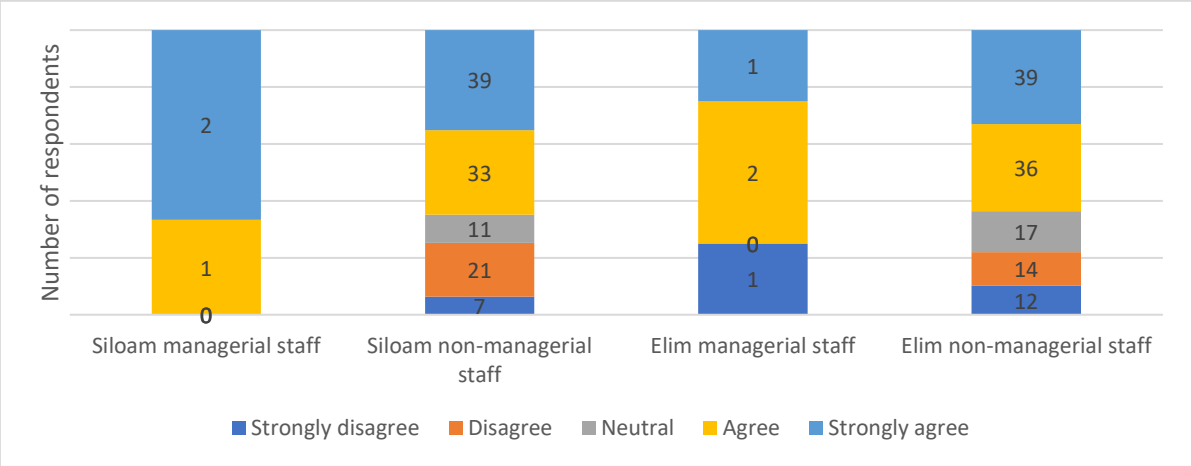

Figure 17: Opinions on whether they see themselves working here in 5 years' time

The non-managerial respondents were then asked if they felt they received enough support from management to adequately carry out their responsibilities. Over one fifth (Siloam n= 24, Elim n=25) of respondents at both hospitals felt a lack of support (Figure 18).

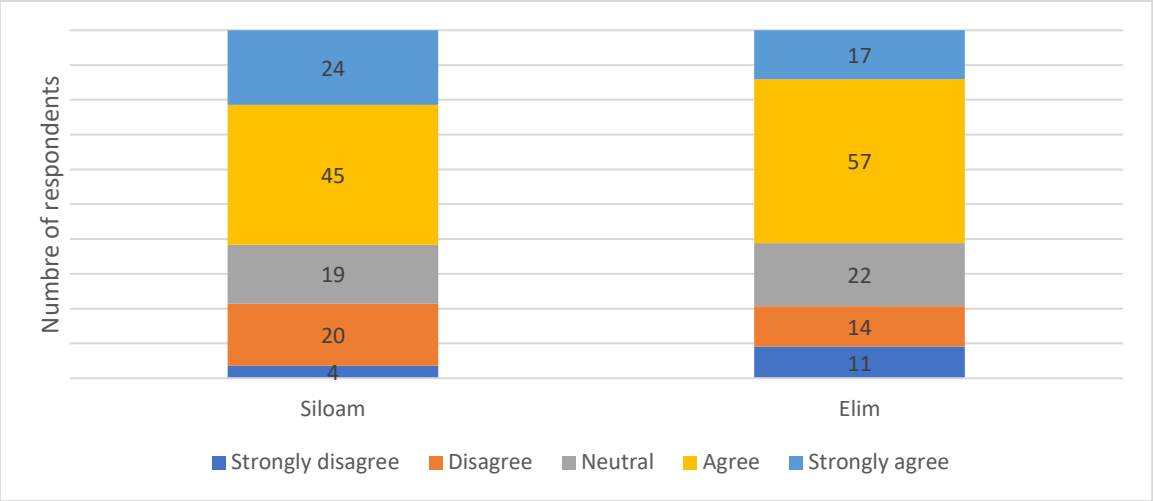

Figure 18: Non-managerial responses on whether they receive enough support from senior management

Unity in reaching goals

Respondents were asked about non-clinical employees' involvement in the hospital vision, as well as their awareness of the hospital vision (Figure 19). All senior management responded that they have a good understanding of the goals and visions of the hospital, and the majority at both Siloam and Elim hospitals- 81% (n=91) and 73% (n=88) respectively claimed the same understanding.

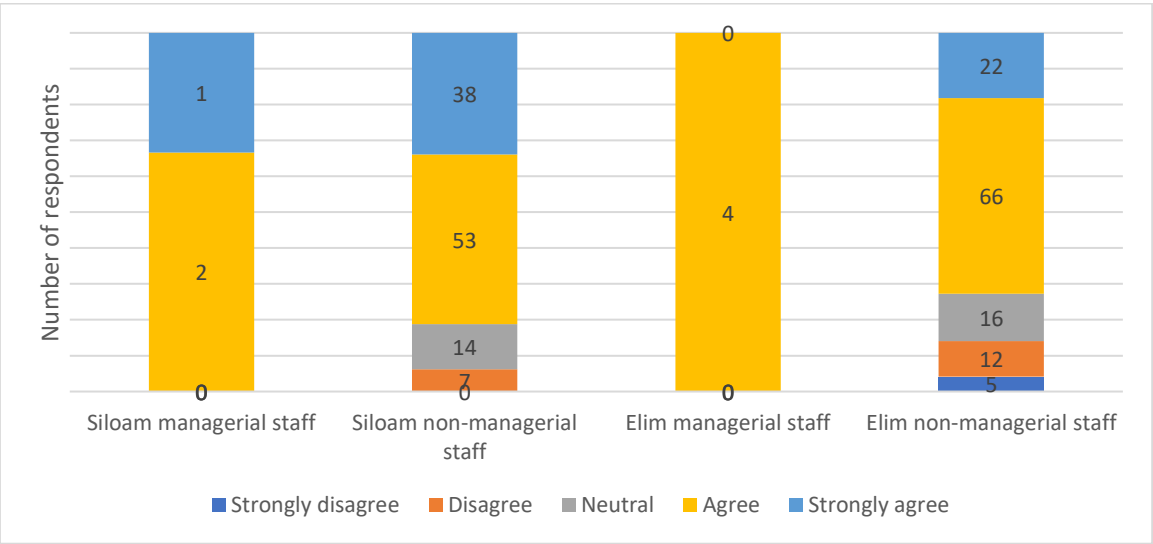

Figure 19: Opinions on whether they have a good understanding of the goals and vision of the hospital

With the exception of Siloam senior management, there is less certainty about how the non-clinical staff such as customer service, cleaning services etc. share in the vision of the hospital. Both managerial and non-managerial staff at Elim hospital, and non-managerial staff at Siloam had a significant number of respondents answering neutral- Siloam non-managerial 29% (n=32), Elim non-managerial 39% (n=43) and Elim senior management 50% (n=2) (Figure 20).

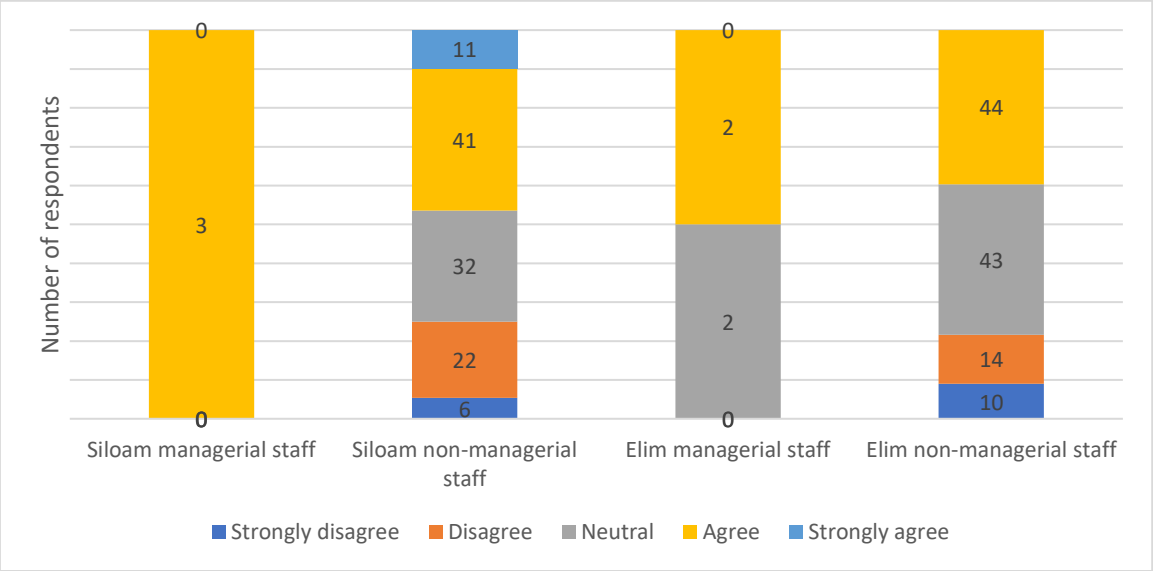

Figure 20: Opinions on whether non-clinical staff share in the vision of the hospital

When answering about their own understanding of the hospital's vision, all the managers at both hospitals either agreed or strongly agreed that they understood the hospital's vision. In comparison, the non-managerial respondents at both hospitals were less clear about the vision, with 23.2% (n=54) over both hospitals admitting to being unclear about the hospital vision (answering neutral or less on the Likert scale).

Expertise driven practice

Senior managers at both hospitals all said that refined protocols were used at their hospitals. Non-managerial staff at both hospitals were less aware that national protocols could be adapted and refined, with 37.5% (n=39) of Siloam respondents, and 47.8% (n=55) of Elim respondents reporting that unrefined national guidelines were used.

Community involvement

Respondents were asked if they were involved in the community or in outreaches outside the confines of the hospital. In Siloam, 66% (n=2) of senior management were involved, together with 34% (n=36) of their subordinates. In Elim, only 25% (n=1) of senior management, and 21% (n=25) of their subordinates were involved (Figure 21).

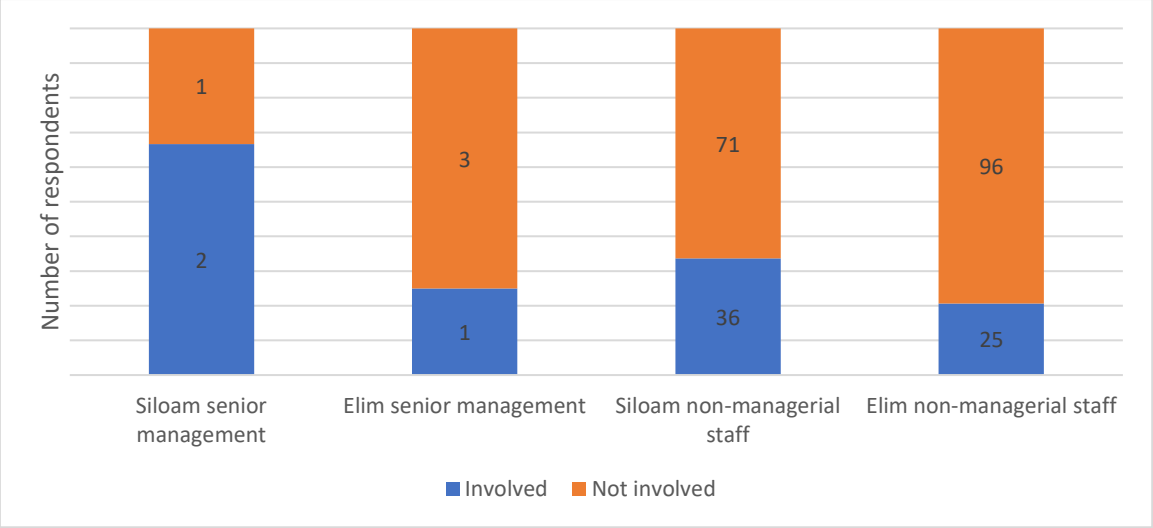

Figure 21: Respondent involvement in community outreach

4.4.2 Building and Maintenance of Human Resources

Respondents were asked whether they had received training on the policies and guidelines that govern their hospital's practice, as well as in their field of work (Table 5). More senior management received policy training than their subordinates (86%, n=6 vs 38%, n=87).

Table 5: Policy training in managerial and non-managerial staff

			Hospital		
			Siloam n(%)N=3	Elim n(%)N=4	Total
Senior management	Policy training	No	1(33)	0(0)	1(14)
		Yes	2(66)	4(100)	6(86)
			Siloam n(%)N=106	Elim n(%)N=120	
Non-managerial staff	Policy training	No	62(59)	77(64)	139(62)
		Yes	44(41)	43(36)	87(38)

Training in the area of expertise was received by 86% (n=6) of senior management, and 42% (n=84) of non-managerial staff in the previous year (Table 6).

Table 6: Clinical training of managerial and non-managerial staff in the last year

			Hospital		
			Siloam n(%)N=3	Elim n(%)N=4	Total n(%)N=7
Senior management	Clinical training in last year	0	1(33)	0(0)	1(14)
		1-3	2(66)	4(100)	6(86)
		>3	0(0)	0(0)	0(0)
			Siloam n(%)N=104	Elim n(%)N=86	Total n(%)N=7
Non-managerial staff	Clinical training in last year	0	49(47)	57(66)	106(56)
		1-3	48(46)	25(29)	73(38)
		>3	7(7)	4(5)	11(6)

When asked if there were employees that worked in the private sector, managers at both hospitals unanimously answered that there are employees that work part time in the private sector. On the contrary, only 34% (n=35) of non-managerial staff at Siloam hospital, and 23% (n=28) at Elim hospital answered that there are employees that work in the private sector, whether officially or unofficially.

The managerial questionnaire included more questions focussing on human resources. Managers at the two hospitals responded on whether healthcare worker posts, managerial posts and non-clinical posts were mostly filled (Figure 22). Siloam respondents were divided in their responses on whether managerial posts were filled, with 66% (n=2) strongly disagreeing, and 33% (n=1) strongly agreeing. Elim respondents all disagreed that they were filled. In Siloam, clinical posts appear better filled, with all respondents at Siloam responding neutrally or agreeing. Elim respondents were divided, with 50% (n=2) agreeing that posts were filled, and 50% (n=2) strongly disagreeing. All respondents at both hospitals disagreed that non-clinical posts were filled.

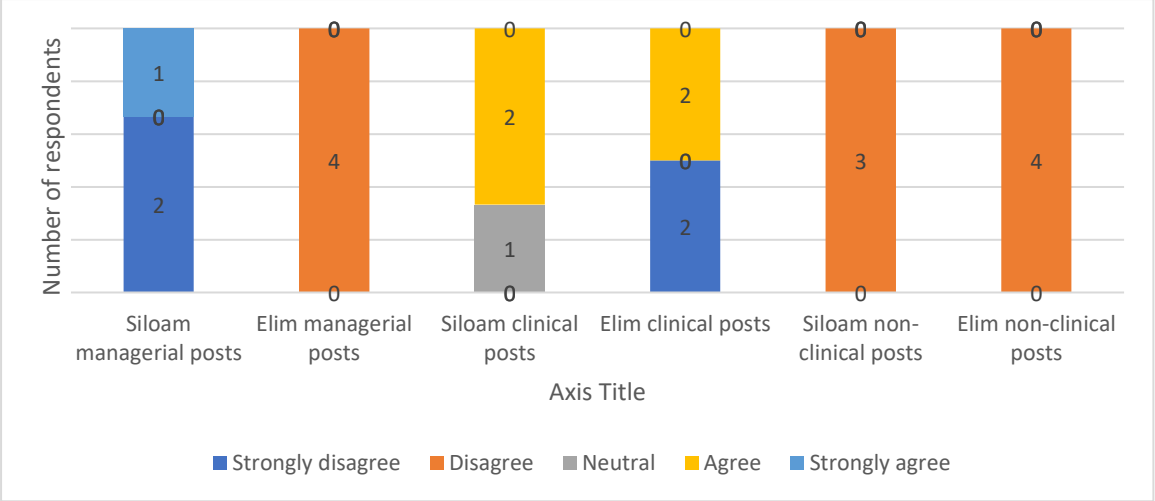

Figure 22: Managers' opinions on whether available posts are mostly filled

Managers at both hospitals also unanimously disagreed that they have the power to hire and fire staff as they see fit.

4.4.3 Physical resources

In this section, respondents were asked about the adequacy and efficiency of physical resources at their hospitals. Table 7 below summarises their responses.

Table 7: Responses to adequacy and efficiency of physical resources

		Siloam hospital		Elim hospital	
Responses		**Managerial n(%)N=3**	**Non-managerial n(%)N=111**	**Managerial n(%)N=4**	**Non-managerial n(%)N=123**
There is often a delay in the supply of assets and equipment	**STRONGLY AGREE**	1(33)	35(32)	0(0)	61(50)
	AGREE	0(0)	49(44)	3(75)	38(31)
	NEUTRAL	0(0)	17(15)	0(0)	10(8)
	DISAGREE	1(33)	4(100)	1(25)	3(2)
	STRONGLY DISAGREE	1(33)	6(5)	0(0)	11(9)
			n(%)N=112		**n(%)N=123**
The hospital has adequate equipment	**STRONGLY AGREE**	1(33)	4(4)	0(0)	4(3)
	AGREE	**0(0)**	**8(7)**	**0**(0)	**6(5)**
	NEUTRAL	1(33)	13(11)	1(25)	20(16)
	DISAGREE	1(33)	51(46)	2(50)	55(45)
	STRONGLY DISAGREE	**0(0)**	**36(32)**	**1(25)**	**38(31)**
			n(%)N=107		**n(%)N=122**
There are more patients that need this facility than the hospital is equipped to provide.	**STRONGLY AGREE**	1(33)	36(34)	3(75)	71(58)
	AGREE	**1**(33)	**52(49)**	**0**(0)	**35(29)**
	NEUTRAL	0(0)	8(7)	1(25)	3(2)
	DISAGREE	1(33)	6(5)	0(0)	5(4)
	STRONGLY DISAGREE	**0(0)**	**5(5)**	**0**(0)	**8(7)**
			n(%)N=110		n(%)N=121
Equipment get serviced **according to a definite maintenance plan**	**STRONGLY AGREE**	0(0)	18(7)	0(0)	7(6)
	AGREE	**1**(33)	**37(18)**	**0**(0)	**14(12)**
	NEUTRAL	2(67)	28(25)	2(50)	28(23)
	DISAGREE	0(0)	20(34)	1(25)	38(31)
	STRONGLY DISAGREE	**0(0)**	**7(16)**	**1(25)**	**34(28)**
			n(%)N=107		**n(%)N=120**
Has there, to your knowledge, been a stock out of any medication in the last month?	**YES**	3(100)	78(73)	4(100)	114(95)
	NO	0(0)	29(27)	0(0)	6(5)
			n(%)N=110		
Has there, to your knowledge, been delays or inaccuracies in blood laboratory results in the last month?	**YES**	2(67)	51(46)	1(25)	73(60)
	NO	1(33)	59(54)	3(75)	48(40)
			n(%)N=107		**n(%)N=118**
Is there ever a shortage of blood products?	**YES**	2(67)	51(48)	1(33)	76(64)
	NO	1(33)	56(52)	2(67)	42(36)
			n(%)N=109		**n(%)N=118**
Has there been a fault in which the back-up plan failed in water supply or electricity supply in the last month?	**YES**	1(33)	79(72)	2(50)	75(64)
	NO	2(67)	30(28)	2(50)	43(36)

The senior management was asked about the functionality of Information Technology (IT) in various sections of the hospital. Patient record keeping was assessed as partially functional by 66% (n=2), and non-functional by 33% (n=1) of Siloam managers, while 75% (n=3) of Elim respondents assessed their patient record keeping as functional and 25% (n=1) as partially functional. Both hospitals assessed their IT financial records as partially functional. In terms of clinical performance records, 1 manager (33%) at Siloam hospital assessed them as functional, while the other 2 (66%) assessed them as partially functional. Elim respondents assessed their clinical performance record keeping as partially functional (66%, n=2) or non-functional (33%, n=1). The results are shown below (Figure 23).

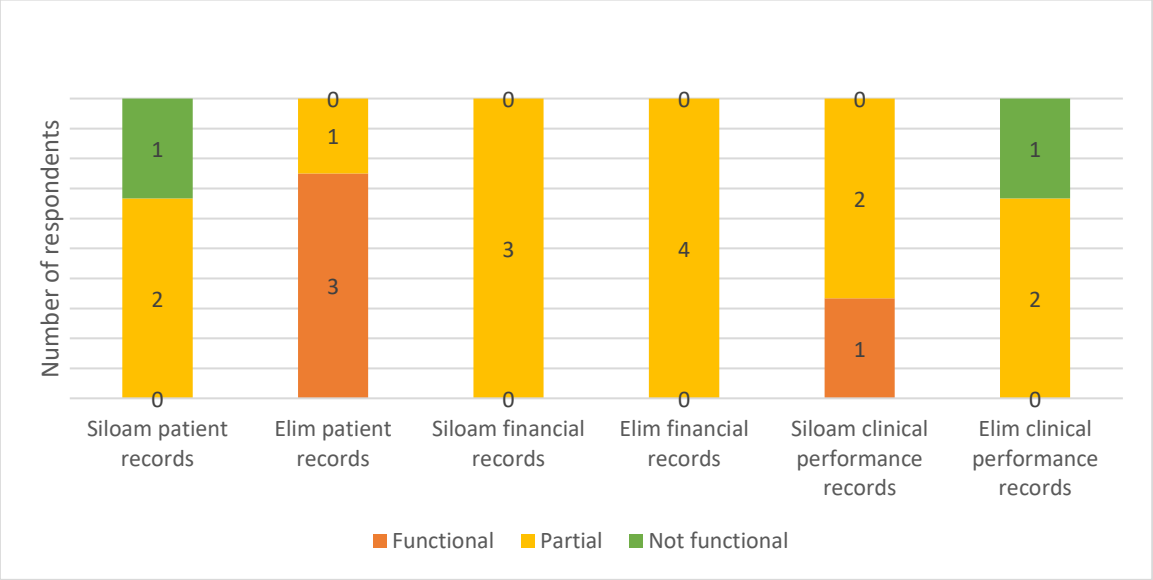

Figure 23: Managers' response on IT functionality

4.4.4 Effective Performance Monitoring and Reward Systems

Senior management was asked whether they regularly see hospital performance indicators, and whether they involve themselves if performance indicators are irregular. Sixty-seven percent (n=2) of Siloam senior management agreed that they did, while 33% (n=1) strongly disagreed. In Elim, half (n=2) were neutral and the other half agreed (n=2) (Figure 24).

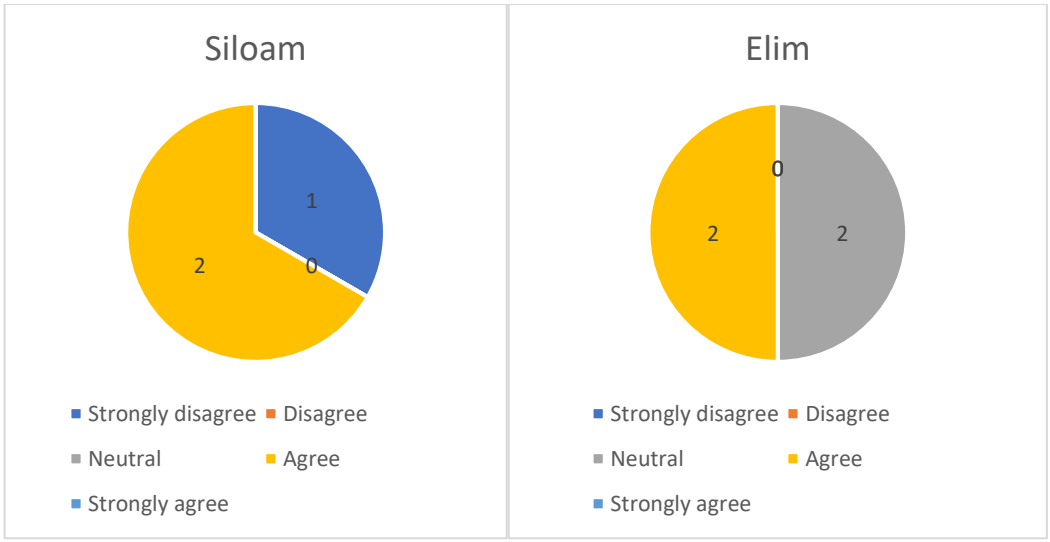

Figure 24: The board and senior management involvement in performance indicators

Both senior management and non-managerial staff were then asked their opinion on whether non-managerial staff was familiar with their own hospital's NCS targets. Siloam senior management all agreed or strongly agreed that their subordinates were familiar with the targets. The majority (91%,n=10) of non-managerial staff confirmed this opinion. For the same question, 75% (n=3) of Elim managers agreed, while 25% (n=1) were neutral. 56% (n=68) of subordinates agreed that they were familiar with the hospital's NCS targets (Figure 25-28).

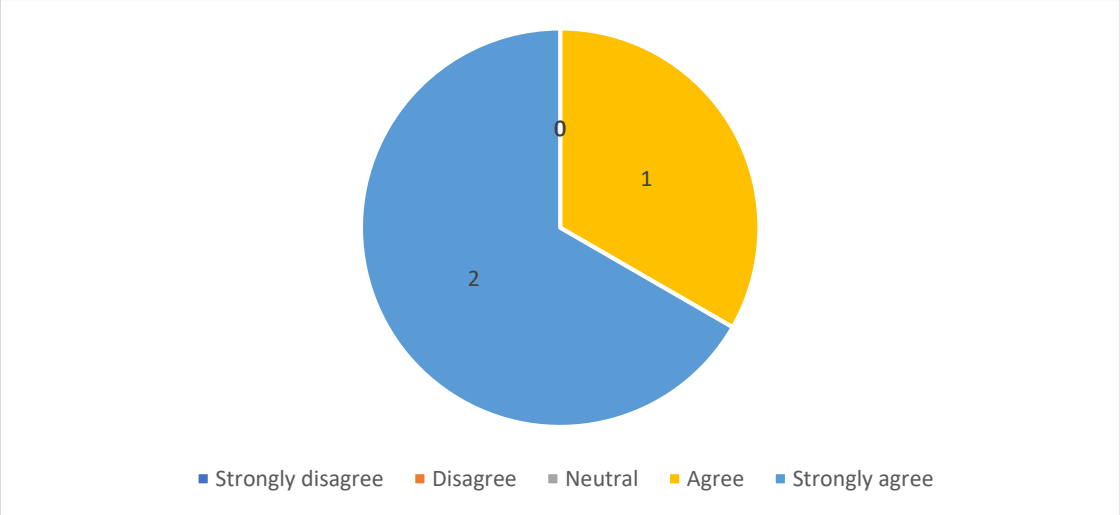

Figure 25: Siloam management opinion of subordinate knowledge of NCS targets

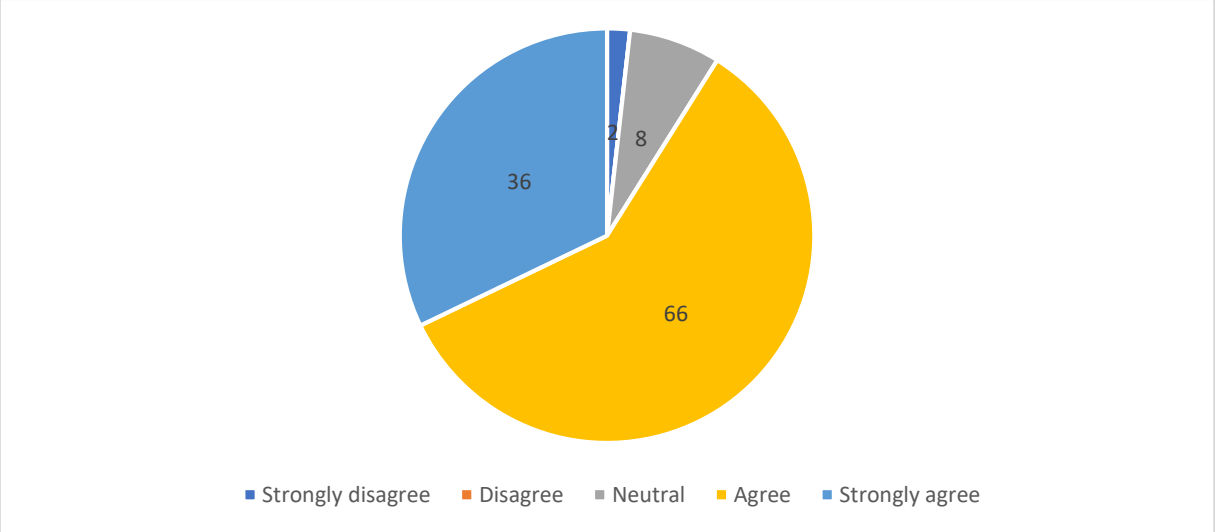

Figure 26: Siloam non-managerial staff opinion of their own knowledge of NCS targets

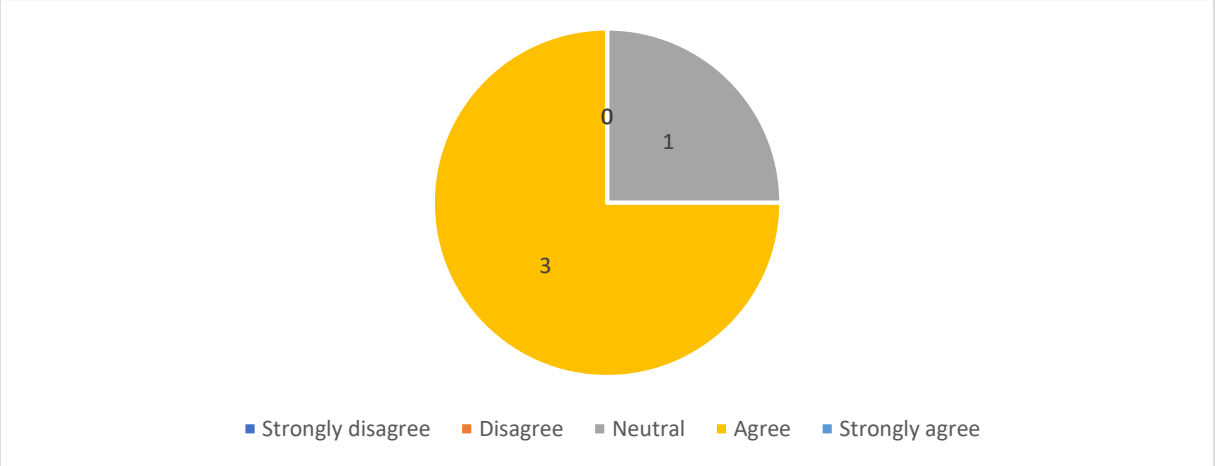

Figure 27: Elim managers' opinion of subordinates' knowledge of NCS targets

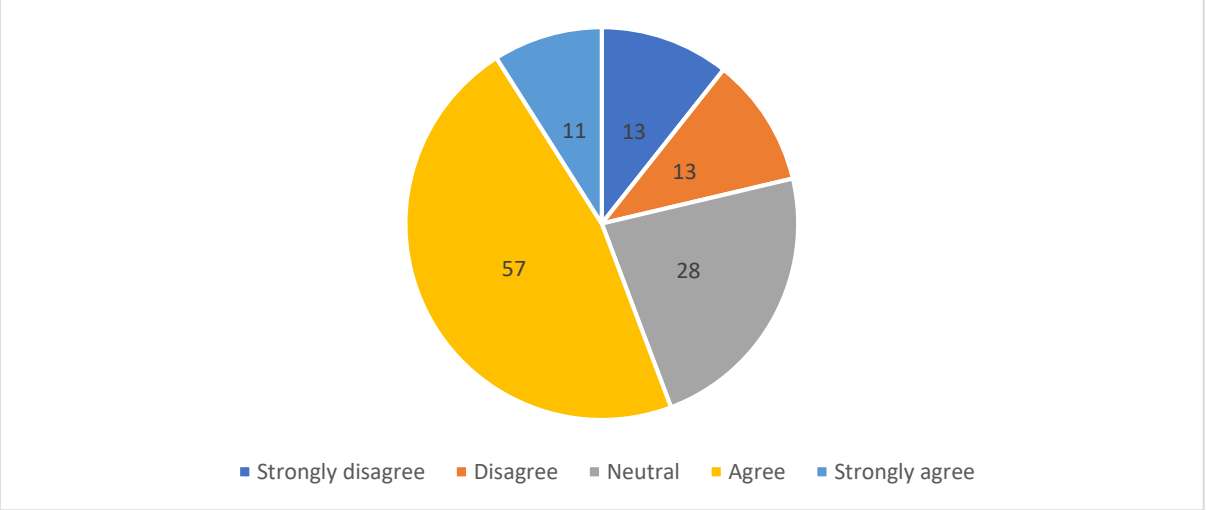

Figure 28: Elim non-managerial staff opinion of their own knowledge of NCS targets

All respondents were asked if they felt that they received the recognition for hard work that they deserved. Siloam senior management either agreed (66%, n=2) or were neutral (33%, n=1) that they felt adequately recognised. 58% (n=65) of non-managerial respondents agreed or strongly agreed to the statement, and 25% (n=28) disagreed or strongly disagreed that they were adequately recognised. In Elim, respondents on average felt less recognised. Only one (25%) of senior management respondents, and 34% (n=41) of non-managerial respondents agreed that they felt adequately recognised. Amongst the managerial respondents, 33% (n=1) at Siloam and 50% (n=2) responded neutrally. Their answers are illustrated below in figure 29.

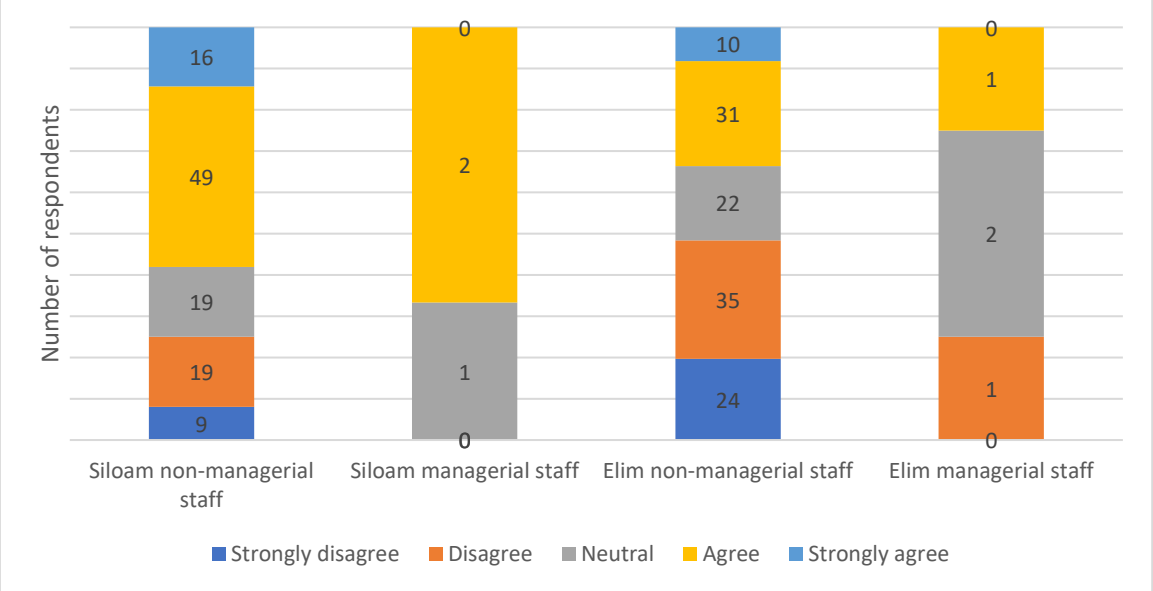

Figure 29: Opinions on whether respondents feel adequately recognised for hard work

Senior management was asked if there were any rewards for good performance to individuals other than PMDS. Extra rewards such as verbal praise were mentioned by those who gave examples.

4.5 Personal factors

4.5.1 Focus on Quality

Respondents were asked if they were happy with the current level of quality of care at their hospitals. Siloam senior management responded with 33% (n=1) agreeing, 33% (n=1) strongly disagreeing, and 33% (n=1) being neutral. Elim senior management had a dichotomous response, with half agreeing and half disagreeing. Non-managerial staff at both hospitals responded similarly to each other, with 40% (n=46) of respondents agreeing or strongly agreeing, and 36% (n=40) disagreeing or strongly disagreeing in Siloam; and 38% (n=45) agreeing or strongly agreeing, and 31% (n=36) disagreeing or strongly disagreeing in Elim that they were happy with the quality of care at their hospital. In addition, 23% (n=26) of

Siloam non-managerial respondents, and 31% (n=37) of Elim non-managerial respondents answered neutrally. Their responses are shown below (Figure 30).

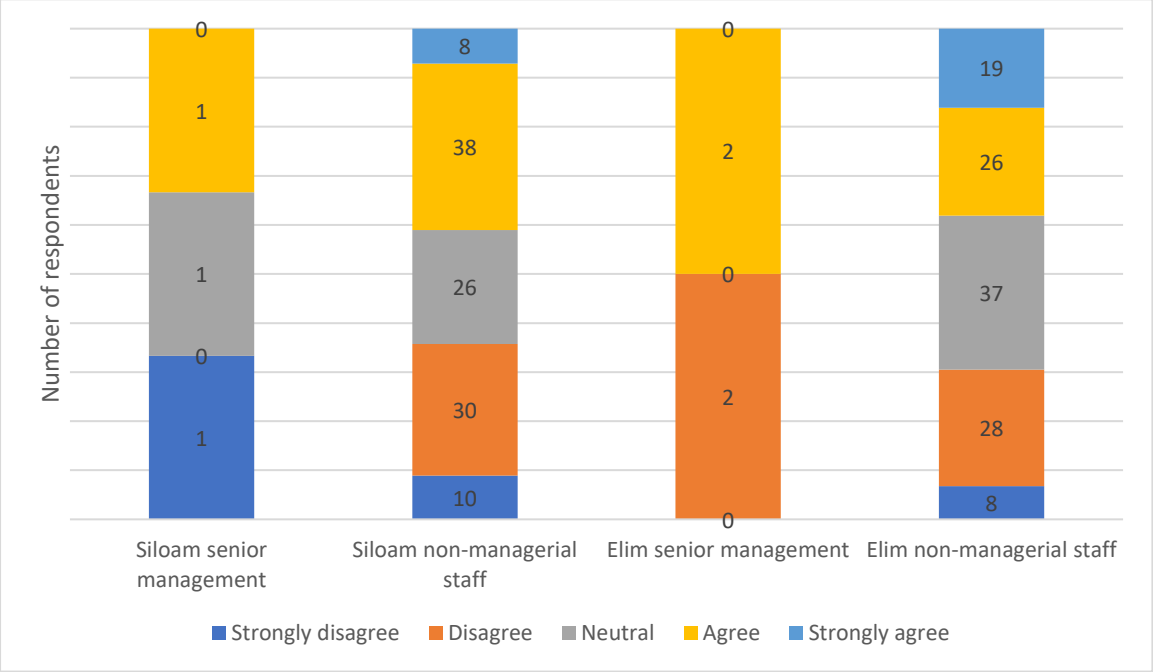

Figure 30: Happiness with the current level of quality of care at their hospital

Senior managers were asked whether they thought it was most beneficial to compare their performance with their own prior performance, to peers, or to the National Standards. As depicted in figure 31 below, at Siloam hospital, 33% (n=1) chose NCS and 67% (n=2) chose prior performance. At Elim hospital, 75% (n=4) chose NCS and 25% (n=1) chose prior performance.

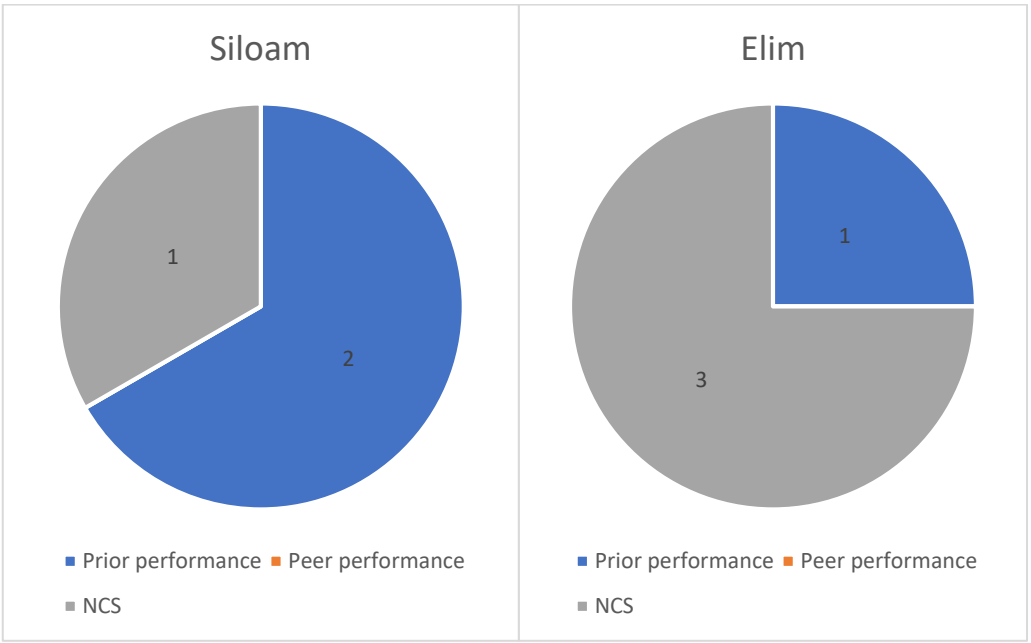

Figure 31: Best comparison of hospital performance according to management

Answers were divided at both hospitals when management was asked if there is a board quality committee, with 33% (n=1) and 50% (n=2) of respondents saying that they did have such a committee, while the remainder said that they did not. Management was then asked how much time the board spent on quality improvement. Siloam hospital's board appeared to spend more time on quality improvement than Elim's board (Figure 32).

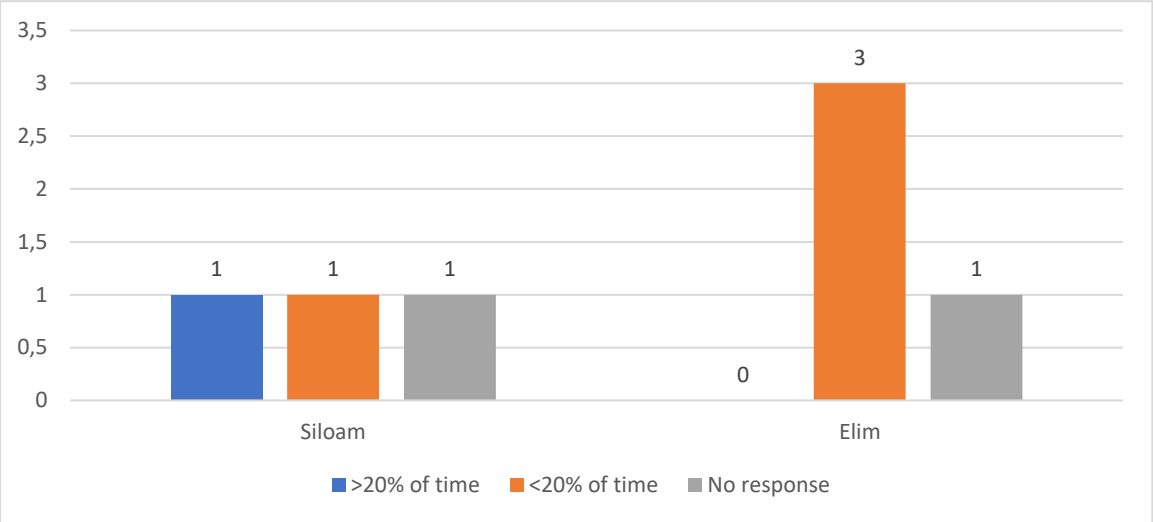

Figure 32: Board time spent on quality improvement

The top reasons for complaints listed by management at Siloam were

- waiting times
- staff attitude
- cleanliness
- patient safety

while at Elim, reasons were

- staff attitude
- cleanliness
- lack of resources.

4.5.2 Leadership structure

Senior management was asked to respond using a Likert scale on questions relating to leadership structure at their hospital. Most respondents agreed that they had enough authority, except for one respondent at Elim who responded neutrally (Figure 33).

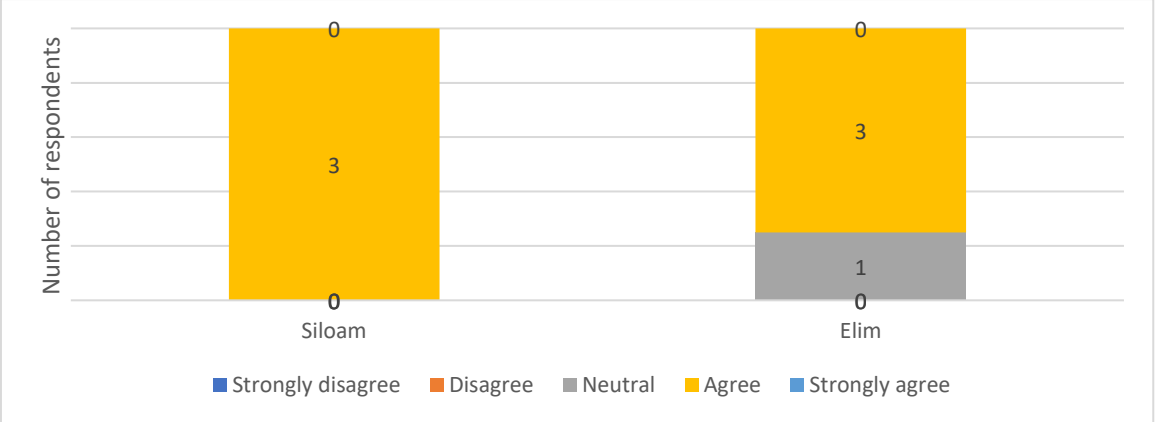

Figure 33: Managerial opinions on whether they feel they have enough authority to carry out their work effectively

All respondents at both hospitals felt that they had a good working relationship with the rest of senior management (Figure 34).

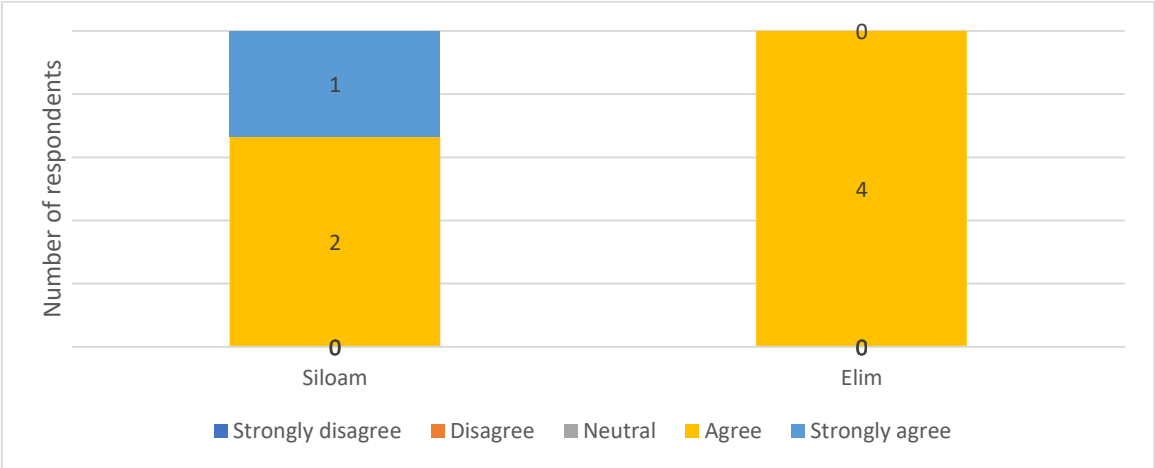

Figure 34: Opinions on whether their working relationship with other members of senior management is good and effective

Most members of senior management agreed that the CFO understood the clinical needs of the hospital (Figure 35).

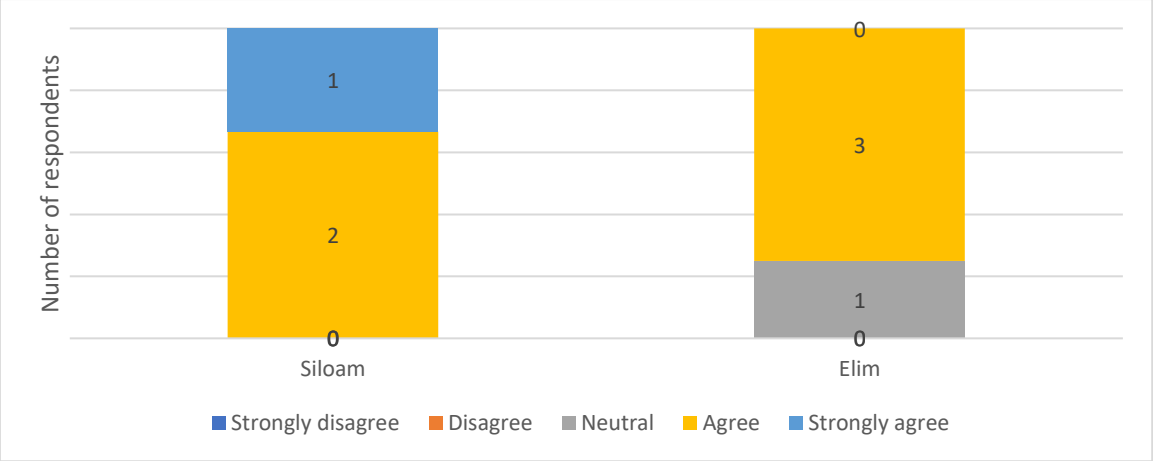

Figure 35: Opinions on whether the CFO understands the clinical needs of the hospital

Managers were asked where the manager that had held their position previously had moved to. At Siloam hospital, one was transferred to another post within the DOH, whilst two resigned. At Elim hospital, two were transferred to another post within the DOH, one resigned, and one died. Quality improvement at both hospitals is usually initiated either by senior or operational management- not by non-managerial staff.

4.5.3 Leadership skills

Senior management and non-managerial staff were asked how they refer to the managers. The vast majority of both managerial and non-managerial staff refer to managers by their surname (Figure 36).

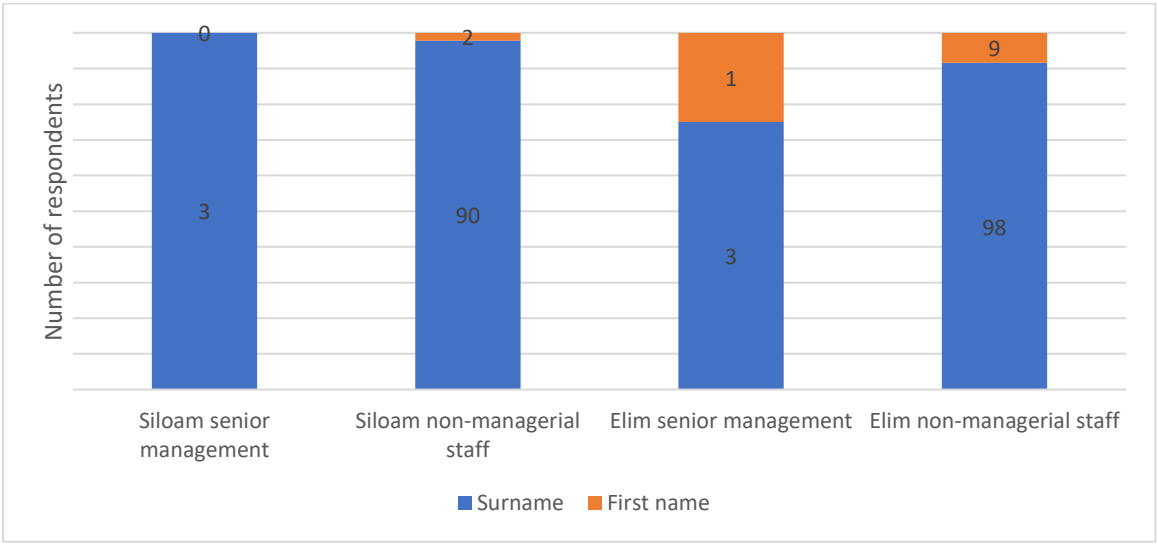

Figure 36: Responses on how managers and staff refer to senior management

Non-managerial staff were asked about the dedication of their leaders, and whether they were inspiring. In general, Siloam respondents found their leaders more dedicated, and more inspiring, with 68% (n=75) compared to 48% (n=48) scoring “agree” or “strongly agree” with regard to dedication; and 50% (n=54) compared to 33% (n=38) with regard to inspiration. At Elim hospital, a large proportion responded neutrally for both questions (41%, n=41; and 38%, n=44) (Figure 37).

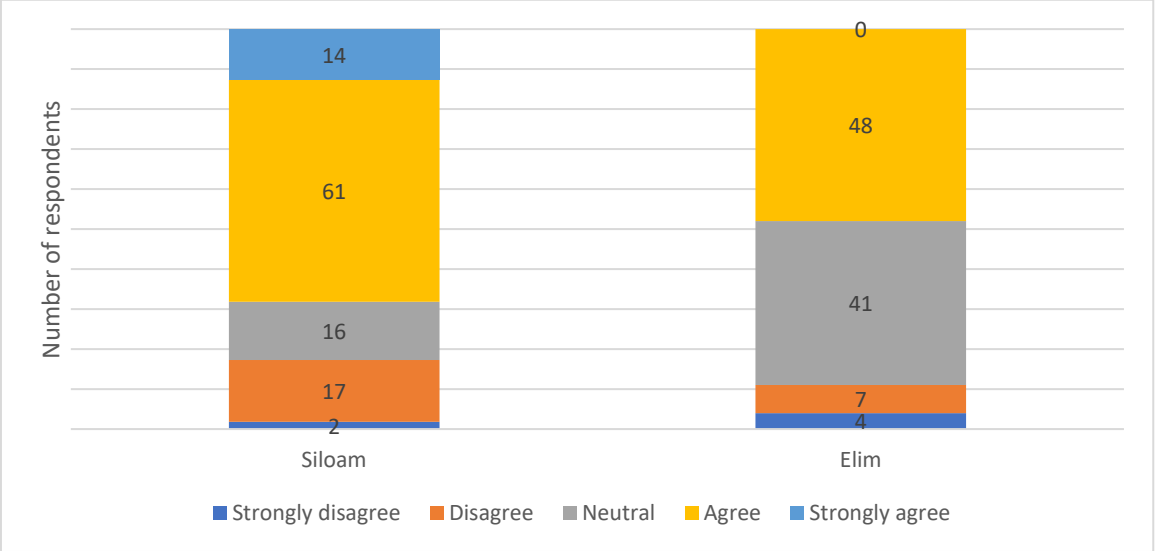

Figure 37: Opinions on whether the leadership is dedicated to the hospital

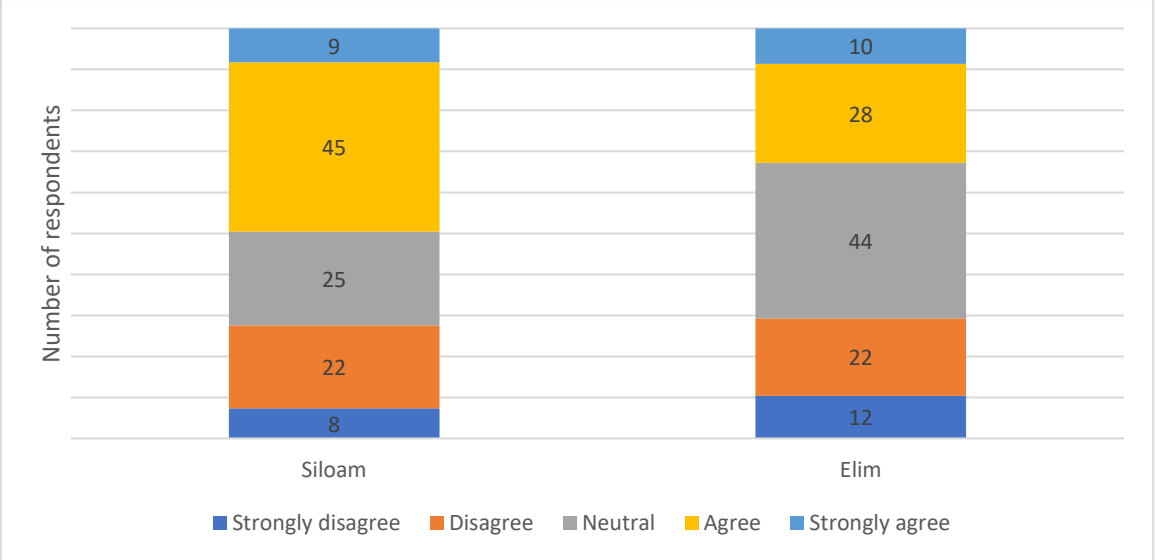

Figure 38: Opinions on whether leadership is inspiring

Senior management were asked to describe their management styles and approaches. Their subordinates were asked to answer the same questions about their managers. Siloam managers identified themselves as methodical and logical in 66% (n=2) of responses, with 61% (n=59) of their subordinates agreeing; and 33% (n=1) identified as charismatic and

spontaneous, with 39% (n=38) of their subordinates agreeing to this. In Elim hospital, on average, more respondents assessed their leaders as charismatic and spontaneous (68%, n=74) compared to 32% n=35) describing them as more methodical and logical. 50% (n=2) of their managers described themselves as methodical and logical, and 50% (n=2) as charismatic and spontaneous (Figure 39).

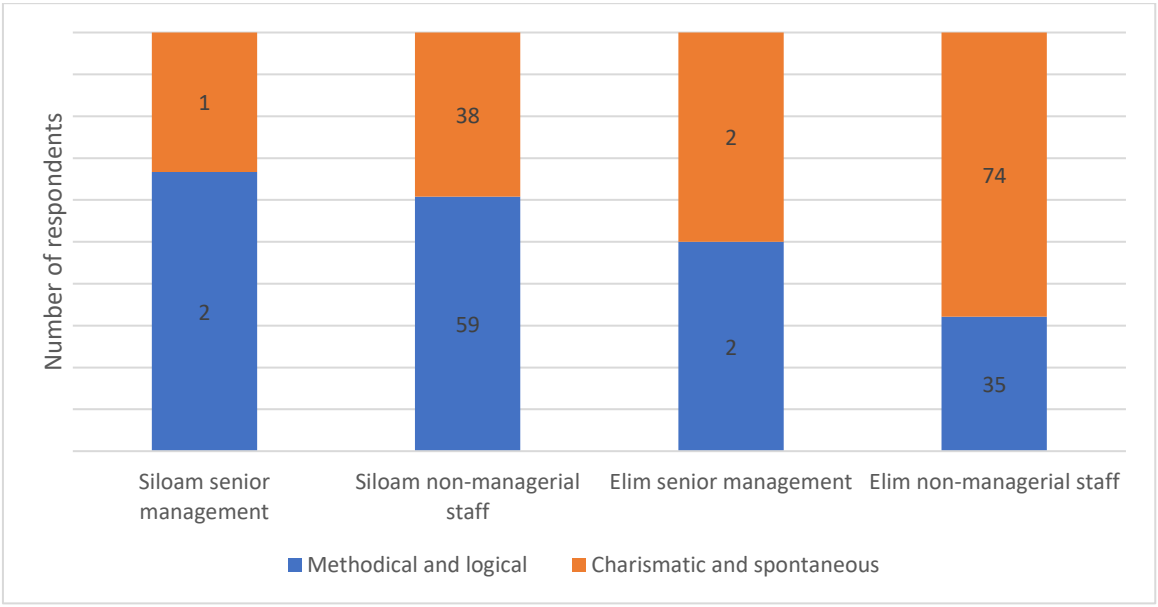

Figure 39: Management style

With regard to the management approach (figure 40), managers saw themselves as more hands on and involved (Siloam 66%, n=2; and Elim 75%, n=3), while their subordinates tended to see them more as supervisors and delegators (Siloam 66%, n=70; Elim 66%, n=72).

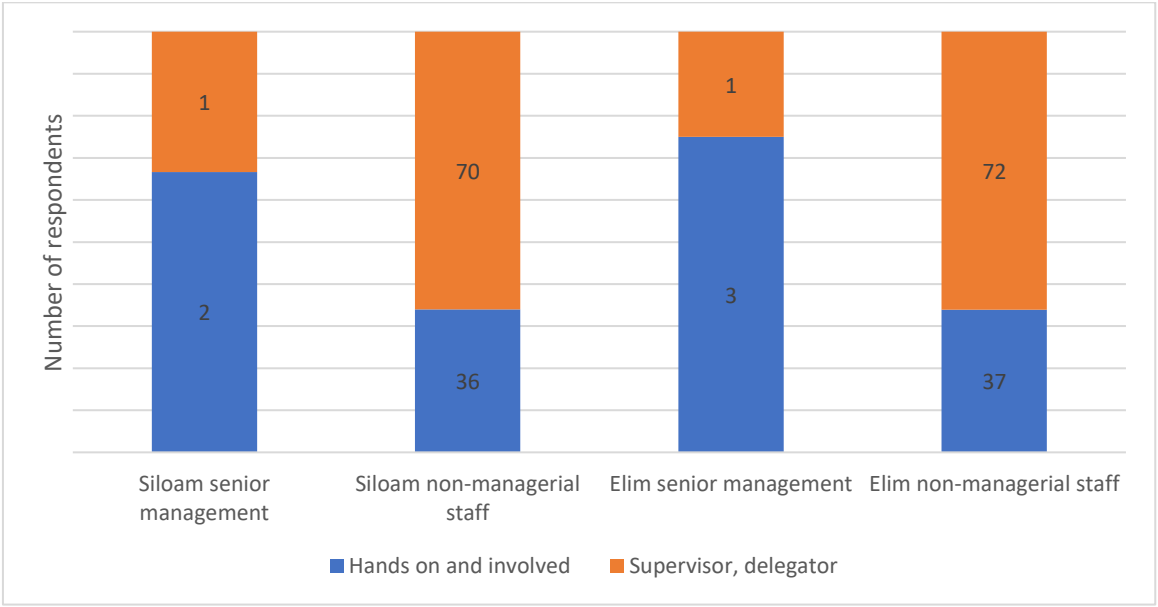

Figure 40: Management approach

4.6 The association between hospital performance and personal and organisational factors

After transforming the categorical data to continuous data (Sullivan and Artino, 2013), certain aspects of senior managerial characteristics were then statistically analysed.

4.6.1 Multiple regression analysis

Multiple regression analysis was performed to investigate the impact of groups of predictors (teamwork, leadership structure, effective performance monitoring and reward system, relationships, teamwork, unity in reaching goals and staff morale) on hospital performance. Dummy variables were created for the independent variables. Enter procedure was used for variable selection. Table 8 below shows the model summary of the linear relationship between the predictors of hospital performance, and the senior managerial respondents' perception of hospital performance.

Table 8: Multiple regression analysis model summary of relationship between predictors of hospital performance and senior management's perception of hospital performance

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.789[a]	0.623	-1.642	1.893
a. Predictors: (Constant), Leadership Structure, Effective Performance Monitoring and Reward Systems, Relationships, Teamwork, Unity in reaching goals, Staff morale				

R = 0.789, indicating that there is a positive relationship between the predictors and hospital performance. This implies that the improvement in these variables result in the improvement of Hospital quality. The model explains 62.3% (R^2) of the variance in hospital quality. However, when R^2 is adjusted, it becomes negative, and thus insignificant, due to the small sample size (n=8) of senior managerial respondents.

Table 9 below shows the model summary of the linear relationship between the predictors of hospital performance, and the non-managerial respondents' perception of hospital performance.

Table 9: Multiple regression analysis model summary of relationship between predictors of hospital performance and non-managerial respondents' perception of hospital performance

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.373[a]	0.139	0.124	1.071
a. Predictors: (Constant), Teamwork, Relationships, Leadership skills, Staff morale				

This analysis is more robust due to the larger sample size (224). R = 0.373, indicating that there is a positive relationship between the predictors and hospital performance. The model explains 13.9% (R^2) of the variance in hospital quality, with an adjusted R^2 of 12.4%.

Table 10 shows the coefficients of independent variables used in the regression model, comparing the impact of each construct of perceptions of hospital performance individually. “Leadership structure” contributed the strongest unique contribution (1.474) with p-value =0.461 to explain the dependent variable. All p-values were greater than 0.05, concluding that no variable made a statistically significant unique contribution to the regression equation, but the coefficients still describe how much each construct contributes.

Table 10: Independent variable coefficients of senior management responses

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Consta1nt)	-23.568	26.073		-0.904	0.532
Teamwork	2.075	2.201	0.982	0.943	0.519
Relationships	2.172	3.113	0.997	0.698	0.612
Staff morale	-1.259	1.760	-1.377	-0.715	0.605
Unity in reaching goals	1.645	5.115	0.499	0.322	0.802
Effective Performance Monitoring and Reward Systems	-1.045	2.137	-0.596	-0.489	0.710
Leadership Structure	3.048	2.695	1.474	1.131	0.461
a. Dependent Variable: I am happy with the current level of quality of care at this hospital					

Table 11 shows the coefficients of independent variables, comparing the impact of each construct of perceptions of hospital performance individually, using the responses from the non-managerial respondents. “Leadership skills” contributed the strongest unique contribution (0.283) with statistically significant p-value =0.000 to explain the dependent variable. This indicates that the group of responses “leadership skills” made a significant contribution to the regression equation.

Table 11: Independent variable coefficients non-managerial responses

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.904	0.500		1.810	0.072
	Relationship	0.133	0.134	0.069	0.994	0.321
	Staff morale	0.134	0.095	0.108	1.400	0.163
	Leadership skills	0.363	0.097	0.283	3.751	0.000
	Teamwork	-0.007	0.113	-0.005	-0.065	0.948
a. Dependent Variable: I am happy with the current level of quality of care at this hospital						

4.6.2 ANOVA

ANOVA on senior management responses with the independent variables of leadership structure, effective performance monitoring and reward systems, relationships, teamwork, unity in reaching goals, staff morale; and dependent variable of their opinion on the level of hospital quality, is shown in Table 12. The null hypothesis that the means are different is not rejected. The results are not statistically significant (Sig=0.895).

Table 12: ANOVA on senior management responses of predictors of hospital performance, and perception of hospital quality

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.915	6	0.986	0.275	0.895[b]
Residual	3.585	1	3.585		
Total	9.500	7			
a. Dependent Variable: Hospital Quality					
b. Predictors: (Constant), Leadership Structure, Effective Performance Monitoring and Reward Systems, Relationships, Teamwork, Unity in reaching goals, Staff morale					

ANOVA was performed on non-managerial respondents with the independent variables teamwork, relationship, leadership skills, staff morale as shown in Table 13. The results are statistically significant at a significance level of 0.05 (Sig 0.000). The null hypothesis is rejected, so the mean effect is different for each variable.

Table 13: ANOVA on non-managerial responses predictors of hospital performance, and perception of hospital quality

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.613	4	10.403	9.077	0.000[b]
	Residual	257.883	225	1.146		
	Total	299.496	229			
a. Dependent Variable: I am happy with the current level of quality of care at this hospital						
b. Predictors: (Constant), Teamwork, Relationship, Leadership skills, Morale						

4.7 Conclusion

This chapter reported the results of the study obtained through the data instrument, and depicted these results in the form of graphs and tables. The next chapter will discuss these findings.

Chapter 5

Discussion

5.1 Introduction

In this chapter, the results from the previous chapter will be analysed and discussed and compared to results from other studies in literature.

5.2 Demographics

5.2.1 Gender

In both hospitals, there is a clear predominance of females in the hospitals in this study, both in the management team (63%) and in non-managerial staff (78%). Results of a psychology based meta-analysis on gender and perceptions of effectivity of leadership by Paustian-Underdahl, Walker and Woehr (2014) showed that overall, perception of effectiveness of leadership is not different between males and females, with a mean difference between male and female gender effectiveness was found to be close to zero (-0.05 Cohen's d), although the meta-analysis showed a trend for perception of females as more effective in newer studies. The female predominance of managers found in this study is in contrast to the global trends of male domination in managerial positions (Stone, Miller, Southerlan and Raun, 2019).

5.2.2 Age and experience

Non-managerial staff at Siloam was predominantly older than 40 years (65%) compared to Elim (50%), but they were served by a younger management team. This correlates with the managerial and clinical experience of the managers in each hospital, where the on average older Elim managers all had more than 5 years of managerial experience, compared to only 1 out of the 3 in Siloam managers. Seven out of the eight senior management respondents answered the question on managerial qualifications. Of those, in Siloam, there was a slightly higher level of managerial education than in Elim. Of note, 33% of Siloam managers, and 40% of Elim managers had no clinical background. This is important to note, as multiple studies indicate that hospitals perform better if the managers have clinical experience, as it assists them in understanding the clinical needs of the hospital. Once such cross-sectional study found a positive correlation between hospital performance and the CEO being a physician (Department of Health, 2012; Goodall, 2011, Sarto and Veronesi, 2016). A survey of managers in hospitals in the UK showed a direct correlation of hospital performance scores with the proportion of clinical managers(Dorgan, Layton, Bloom, Homkes, Sadun, and Van Reenen,2010).

5.2.3 Managerial position permanence

The question in the senior management questionnaire on whether their position was acting or permanent was asked because the researcher has observed the frustration amongst managers who are doing the work of managers without being recognised with the permanent position. All three of Siloam senior management respondents had worked at Siloam in their previous position, and were working in acting positions, rather than permanent ones. This differs from the trend in Elim, where 4 out of the 5 respondents (80%) had worked elsewhere in their previous position. 3 out of the 5 respondents at Elim had permanent positions. This may be because managers sourced externally are unlikely to accept an acting position. According to some studies, however, Siloam choosing managers from within the hospital is advantageous to the hospital. Titzer, Shirley, and Hauck (2014), found that participants who were trained in leadership skills within a hospital were better retained, and were successfully promoted. This appears to take place at Siloam, given the young profile of managers who worked up into their management positions, rather than being transferred in from other institutions and posts.

5.3 Organisational factors

5.3.1 Positive organisational culture

A longitudinal quantitative study by Jacobs, Mannion, Davies, Harrison, Konteh and Walshe (2013) conducted in Great Britain reviewed the relationship between organisational culture and hospital performance by analysing 187 managers' responses on organisational culture in their institutions, and the hospitals' performance grading. It found that developmental culture, that is, creative, innovative adaptive leadership, had the most consistent relationship to better hospital performance, with a significance of 1% using a multi-nominal logistic model. An older, yet valuable due to its' setting in rural South Africa cross-sectional exploratory study by Couper and Hugo (2005) found, by interviewing managers of high performing hospitals, that hospitals that are aware of their history, and whose culture and practices are affected by history and traditions perform better (Couper and Hugo, 2005).

Siloam were more aware of the hospital's history than Elim. This trend carried through to the second question on history- whether the hospital's history affected their management- where more senior management at Siloam (66% vs 40%) agreed that it affected their management. However, this did not reflect in the non-managerial opinions on the same question, in which only 39% agreed at Siloam hospital, compared to 46% at Elim. This may indicate that, while Siloam's senior management is more cognisant of their history, their subordinates do not realise that management decisions were being affected by the hospital's history.

Elim respondents mentioned tribalism, and the missionary background of the hospital as examples. Siloam respondents spoke of the local chief and royalty playing a substantial role in decision making in the hospital. This traditional influence on hospital management needs to be acknowledged, and incorporated into the running of rural hospitals, because, as shown in a qualitative, interview based study by Semiarty and Fanany (2017) in Indonesia, if these aspects are not addressed, it may result in conflict between the hospital management and the traditional model of leadership in that particular tribal area.

Teamwork

The responses to questions regarding teamwork between different groups were on average 'better than neutral' in both hospitals. In response to whether teamwork between members of senior management was good, results differed between the two hospitals, where Siloam non-managerial respondents had a higher opinion of managerial teamwork than the mangers themselves, while Elim's responses were the converse. On the contrary, in response to whether teamwork between senior management and their subordinates, the subordinates were less content with the teamwork between their leaders and themselves than their leaders were, particularly in Elim (100% vs 51% content in managerial vs non-managerial respondents). One third of Elim's non-managerial respondents answered neutrally, which can be interpreted as a negative response, as if they had felt that they were content with the level of teamwork between themselves and management, they would have chosen to agree. This indicates a lack of honest and open communication between the two groups, leaving management potentially unaware of problems in the hospital and in their team, which could lead to poor performance.

Siloam hospital has more frequent meetings between senior management and non-managerial staff than Elim hospital. Regarding meeting productivity, senior management at Siloam responded more positively than non-managerial staff. Managers should address this, as if their subordinates do not think their meetings are productive, it may result in poor attendance, and a lack of unity and ability to reach goals as a team. Surprisingly, in Elim hospital, non-managerial staff were more positive about meeting productivity than their leaders (40% vs 75%). Further questioning would be necessary to investigate why they felt that the meetings were unproductive. Possible reasons could include a level of despondency amongst the management, or a lack of leadership, direction or agenda in the meetings. Meeting attendance at Siloam was slightly better than at Elim, which may be linked to the above finding that Siloam management found meetings more productive than Elim management.

These disparities in opinion on teamwork and meeting productivity may indicate a lack of unity and communication. Linked to their views of teamwork, 26% of Siloam non-managerial respondents, and 33% of Elim non-managerial respondents felt that senior management was not understanding of the difficulties they faced in the workplace. This again ties in with the postulation that there are problems with communication and teamwork.

As part of working in a team, non-managerial staff was asked if they had ever participated in a quality improvement project in the hospital. Quality improvement is centred around patient care ,and so multi-level participation in quality improvement tasks is vital in order to engage the whole institution in reaching the goals and vision of the hospital (Cantiello, Kitsantas, Moncada, and Abdul, 2016; Keroack et al., 2007). However, both Siloam and Elim had low levels of participation (47% and 53% respectively), with the majority (80%) having been initiated by management, rather than by non-managerial staff. Engagement in quality improvement projects, as well as community projects (discussed below) have a two-way benefit. They benefit the hospital in producing a better service to the community, but also build the team and the unity thereof.

In the senior managerial questionnaire, respondents were asked to rank, in order of importance, the following: reaching national cores standard goals, reaching internal targets, and loyalty of staff. This was done in response to Mosadeghrad (2014) who after a qualitative study interviewing 220 clinicians, managers, policy-makers and clients described how managers who are focussed on the bigger picture, that is, national cores standards, rather than internal disputes, performed better. Reassuringly, the most popular choice as most important was comparing themselves to NCS, which is in line with the recommendations in literature.

Relationships

Relationships between senior management and most non-managerial staff appears to be good, with good levels of communication. This is a very encouraging result, as it is in line with high level evidence such as a meta-analysis on the correlation between good communication in a team and hospital performance by Marlow et al. (2018), which showed that communication is positively related to team performance in a hospital setting, with a positive correlation of 0.31. This needs to be differentiated from the above results on teamwork, which were less encouraging. It lends the researcher to suggest that communication can also be improved upon. However, the encouraging response of views of communication quality should be maximised upon, and managers should use the good communication channels that they have already built to turn communication into action and results.

More than 50% of respondents at both hospitals thought that their managers gave preferential attention to some employees over others. An experimental, social study by Dey, Das, Gupta and Banerjee (2017) suggested that favouritism by managers towards certain individuals may be due to family connections, social connections, social class and political connections. They also pointed out that, while it is usually detrimental to efficiency and productivity if one employee is favoured over a more deserving employee, there may be positive outcomes to favouritism, such as developing certain employees that may become excellent in their area of work.

Staff morale

Based on their responses, Siloam senior management have a high level of satisfaction in their work, with all of them reporting that they were happy, and that they saw themselves working at Siloam hospital in 5 years' time. Only 5% of Siloam's non-managerial staff stated that they were unhappy working at the hospital, and 65% planned to still be working there in 5 years' time. Elim's morale was overall lower in comparison, with only 50% of Elim hospital's senior management stated that they were happy working there. They also had lower rates of wanting to stay employed at Elim for at least 5 years (75% of respondents). The signs of low morale were also seen in another section, where, surprisingly, the managers esteemed their meeting productivity lower than their subordinates rated it, which is a symptom of despondency. More (9%) of their subordinates were also unhappy working at Elim hospital, and 64% planned to be working there in 5 years' time. In terms of support, respondents at Elim and Siloam responded similarly, with 21% of responds feeling a lack of support by their managers. These responses give an idea of staff morale and job satisfaction, as staff that are happy and fulfilled in their work tend to remain for longer (Taylor et al., 2015). A feeling of lack of support in more than one fifth of employees needs to be addressed by management.

Unity in reaching goals

Encouragingly, all senior managers stated that they had a good understanding of the goals and vision of the hospital, and 81% and 73% of non-managerial respondents at Siloam and Elim hospital also responded positively. This is a sign of the above finding that communication at both hospitals is good, and there is a degree of unity in reaching the goals and maintaining the values of the institution. Non-clinical staff at the hospitals did not form part of the study, but respondents were questioned on their opinion of whether they thought that non-clinical staff shared in the vision of the hospital. This was asked, as, many times, quality improvement and quality of service to patients cannot be carried out without the buy-in from non-clinical staff, such as cleaning services and administrative staff. Respondents were less sure about

non-clinical staff's participation in the vision. Possible reasons for this may be due to a lack of communication and interaction with non-clinical staff and may be an area that can be improved upon.

Expertise driven practice

One of the themes produced by Taylor et al (2015) in a qualitative systematic review on factors associated with high performing hospitals was of expertise driven practice- that middle level managers should have the freedom to refine protocols according to their experience and expertise in the local environment. This is because flexibility and autonomy help operational management to manage their areas of influence more efficiently. Senior managers at both hospitals were all aware of this and advocated for it in their responses. Non-managerial staff at both hospitals were less aware that national protocols could be adapted and refined, with 37.5% of Siloam respondents, and 47.8% of Elim respondents reporting that unrefined national guidelines were used. This could lead to deficiencies in managing patients in their rural setting, where certain tools to carry out national clinical protocols may be absent.

Expertise driven practice is also assisted by having clinicians in positions of leadership, as they have the clinical expertise to make the necessary decisions on evidence based practices. As shown in the demographical data, 66% of Siloam senior management, and 60% of Elim senior management have clinical experience. The expert knowledge that they have should assist the hospital in reaching better clinical service delivery.

Community involvement

According to Taylor et al. (2015) and McEvoy, Tierney, and MacFarlane (2019), community participation is an important part of healthcare, but the barriers to success were a lack of funding, and a lack of individuals willing to drive the programmes. In South Africa in particular, community involvement and healthy integration in the district are important, and have been found to be present in well-functioning hospitals (Couper and Hugo, 2005). In keeping with McEvoy et al (2019), this study shows that subordinates are more involved in the community when more managers are involved. Siloam had higher involvement in the community both in its; leadership and the non-managerial staff, indicating that such efforts to serve the community are inspiring, and leadership can inspire their subordinates to follow in their footsteps. This is corroborated by the data that Siloam management was assessed as more inspiring and dedicated by their subordinates than Elim hospital. It may also demonstrate a hospital culture of community service at Siloam hospital, and could be a tool to invoke feelings of unity and positive culture amongst hospital employees.

5.3.2 Building and Maintenance of Human Resources

Senior management, operational management and non-managerial staff all need a healthy work environment in order to work effectively. The responses from senior management in comparison to non-managerial staff regarding training on policies, as well as training received in their clinical area of work, indicated that senior management receive much more training than non-managerial staff. This could be explained by the fact that policy training is more related to the field of management. However, the trend continued with clinical training, with only 14% of senior management not having any clinical training in the previous year, compared to 56% of non-managerial staff, who are more in need of clinical training in the fields in which they work than their managers. This could lead to a situation in which the leaders are trained clinically, but do not have the opportunity to utilise their knowledge, while the clinical staff is left with gaps in their knowledge.

One of factors that contribute to well performing hospitals is dedicated employees. Afsharkazemi et al (2013) found a statistically significant causal relationship between certain hospital characteristics, including having employees work solely for one hospital, and superior hospital performance. In South Africa, many clinicians are employed in both public and private hospitals simultaneously, and there is much debate on the Remunerative Work Outside Public Service (RWOPS) policy (Nomnganga, 2013). The current RWOPS policy of 2016 dictates that government employees are required to apply annually for permission to perform RWOPS, and need to comply with the restrictions of, amongst other things hours worked, in order to ensure that service delivery in the government hospital is not adversely affected (Department of Public Service and Administration, 2016). Answers differed dramatically between managers and non-managerial staff, with all the senior managers responding that there are employees that also work in the private sector. However, only 28% of non-managerial respondents admitted that some employees also work in the private sector. This may be due to their unwillingness to admit that employees are working in the private sector without the required permission. This needs to be addressed, as it amounts to insubordination, and needs to be managed in a structured manner in order to ensure adequate service delivery, without making public sector working conditions unbearable for clinicians who wish to supplement their income and clinical field of work by working in private.

The managerial questionnaire included more questions focussing on human resources. Here questions were asked about the filling of managerial, clinical and non-clinical posts. This was not only asked to know how many posts were vacant, as there are records that could inform of the exact statistics. The questions were also asked to identify areas where senior management felt that there were shortages, and where they felt the need for more staff. The

dichotomous results at both hospitals in response to managerial and healthcare worker posts being filled supported this, as the diversity of answers on the same question, in the same hospital could indicate that certain managers are acutely aware that either performance is lacking, or staff is strained in management and healthcare worker staffing, while others feel that they have adequate human resources to fulfil their tasks. On the other hand, all managers at both hospitals disagreed that non-clinical posts were mostly filled. This is a clear indication of the shortages and strains on the current non-clinical staff. However, more concrete evidence on levels of filled posts can be obtained, and this is more of a depiction of the effects of staff shortages on the morale and functioning of employees.

Not surprisingly, none of the senior managers responded that they have the authority to hire and fire as they see fit. This question was asked because certain studies, such as one by Mosadeghrad (2014) showed that lack of authority to hire and fire is detrimental to hospital performance, as it limits the manager's ability to create a team that would work well in bringing about the goals and vision of the hospital. South Africa has specific guidelines on the hiring process (Department of Health, 2012), and the interview process includes members of the management team, as well as the managers of the discipline for which the interview is held. So, while the individual managers may not have the power to hire and fire, they do play an important role, and do have a say in who is employed.

5.3.3 Physical resources

Several studies, including a systematic review by Parand et al. (2104) have shown that managers have the responsibility of selecting and maintaining resources which will effect the maximum benefit to patients is very important (Parand et al., 2014; Kotagal et al., 2009). One study had a different point of view, and reported that good hospital management and performance influenced the availability of necessary resources, rather than the other way around. This was attributed to wise choices in budgeting for, and maintenance of equipment, and hence uninterrupted patient care (Afsharkazemi et al., 2013). Of note, Siloam managers answered polarly differently to the non-managerial staff regarding delay in the supply of assets and equipment, and adequacy of equipment- where the staff using the equipment responded that it was inadequate, whilst the managers mostly responded that it was adequate. The same held true with the Elim managers' responses to the quality of blood results, and availability of blood products, where the managers were happier with the supply than the staff using the services. Maintenance of equipment seems to be problematic at both hospitals, with only 1 manager and 25% of non-managerial respondents at Siloam hospital responding that equipment is maintained adequately, and none of Elim managers, and 18% of non-managerial

respondents agreeing to the same. This indicates a general lack of quality of maintaining adequate equipment and resource supply in order to effect maximum benefit to patients.

There is a significantly erratic supply of pharmaceuticals at both hospitals- with reports of stock outs by all managers at both hospitals, 75% of Siloam non-managerial respondents, and 95% of Elim non-managerial respondents. This needs to be addressed by management, as such shortages cripple clinical care. Blood product supply is not always controllable, as it is dependent on donors, and the South African National Blood Service. However, shortages cripple clinical care, and management needs to be aware of delays and inefficiencies in the delivery of blood products to patients. At Siloam hospital, 48% of non-managerial respondents, and 67% managerial staff reported shortages. Elim hospital's responses were non-congruent, with only 33% of managers reporting shortages, compared to 64% of their subordinates. This could be due to a lack of communication between management and subordinates when shortages occur. The National Health Act 61 of 2003 (Department of Health, 2017) requires health establishments such as these two district hospitals to ensure uninterrupted 24 hour delivery of electricity to vital areas of the hospital. With this in mind, there was a worryingly high percentage of responses that said there was interruptions with water and electricity supply in the previous month.

Senior management was asked about the functionality of the IT systems in the areas of patient records, clinical performance records, and financial records. This was done because studies such as the one by Afsharkazemi et al(2013) found that better hospital IT systems, in particular in the areas of financial and clinical records were associated with higher performing hospitals. Based on the responses of senior management respondents, Elim patient record keeping is better than Siloam's. Both hospitals responded that there were partially functional electronic financial records. Siloam appeared to have better clinical performance records than Elim.

5.3.4 Effective Performance Monitoring and Reward Systems

Hospital performance monitoring

Performance monitoring allows hospitals to assess, and to give an account on their performance. It is recommended that hospitals use performance indicators to assess their performance against the standard, as a systematic review by Parand et al (2014) found that hospitals that monitor performance have a better process of care, and lower overall mortality rates. Performance assessment also allows management to reward deserving employees according to their performance. This study did not paint a clear picture, as answers within hospitals differed- with 67% (n=2) of Siloam respondents responding that the board did access and intervene on performance indicators, but the other respondents strongly disagreed with

this. At Elim, as well, responses indicated that managers were unsure of whether board was involved, or, if they were involved, it was not a definite, obvious involvement. All the Siloam senior management believed all their subordinates were aware of the NCS and the hospital's performance with regard to them, which was in keeping with the responses of their subordinates, where 91% (n=112) confirmed those opinions. One Elim manager was neutral in their response, whilst the other three were also of the opinion that their subordinates were familiar with the hospital's NCS performance. Their subordinates differed in their responses, where only 56% (n=68) said that they were familiar with the hospital's NCS performance. This indicates that Siloam hospital as a whole is better versed in their performance according to the NCS, which will help them to have goals and targets to achieve better performance. In summary, more can be done to intensify board involvement in performance monitoring, in order to systematically improve quality of care.

Individual performance monitoring

Respondents were asked if they felt adequately recognised for their hard work. This was asked as part of performance monitoring, as good monitoring has been shown to allow management to track good performance of staff, and thus reward it appropriately (Curry et al., 2011). In general, Siloam's respondents felt more recognised than Elim's, with 66% and 58% of Siloam's senior management and non-managerial staff respectively responding positively (agreed). In comparison, the minority of Elim's senior management and non-managerial staff felt less adequately recognised, with 25% of Elim's senior management, and 34% of non-managerial staff feeling adequately recognised. The rest responded neutrally or by disagreeing, indicating that most of the staff at Elim feels under-recognised. This is a very low level of appreciation felt in Elim hospital, and is likely to lead to despondency, poor work ethic and, as already shown in the above results, lower staff morale, and higher rates of wanting to leave the hospital in the near future. 66% (n=2) of Siloam's senior management, and 50% (n=2) of Elim's said that they do reward subordinates for good performance outside of the PMDS framework. The only example given was that of verbal praise. Senior management needs to consider other ways of rewarding subordinates for hard work, as studies such as the qualitative study by Seitovirta, Vehviläinen-Julkunen, Mitronen, De Gieter, and Kvist (2017) found that financial compensation is not the only meaningful method of recognising good performance. Other methods uncovered in the above study, through interviewing nurses are professional development, better benefits, improving employee working environment and resources, allowing opportunities for professional development, time off after working extra hours, and verbal recognition.

5.4 Personal factors

5.4.1 Focus on quality

Keroack et al. (2007) found that managers who tend to be unhappy with the quality of their hospitals, who compare their hospital's performance to national standards rather than to their prior performance performed better. Another Canadian governmental report stated that hospitals should rather compare themselves to their prior performance (Baker et al., 2010). Senior managers were asked whether they thought it was most beneficial to compare their performance with their own prior performance, to peers, or to the National Standards. 33% of Siloam's respondents, and 75% of Elim's respondents felt it best to compare themselves to NCS. Senior management responders were also asked if they were happy with the current quality in their hospital. Siloam senior management respondents were less content with the quality of the hospital than Elim's senior management, which, according Keroack et al. (2007), is a sign that they are more motivated to improve the quality. Elim's non-managerial staff, however, tended to be less content with the level of quality, with 62% of respondents being neutral or disagreeing, compared to 59% of Siloam non-managerial respondents. The responses on this question were also used to assess the perception of the level of hospital performance in their hospitals in the statistical analyses. This is not an ideal method of assessing hospital performance, as it is very subjective. A better method would be a standardised, unbiased assessment of each hospital's performance indicators.

Both hospitals had differing responses amongst themselves concerning the presence of a quality committee in their board. This indicates that, if there is one, it may be poorly defined. Baker et al. (2010) also found that board committees that spend more time of quality (>20%) are associated with better performing hospitals. This was corroborated by the finding of an association between hospital performance and board engagement in quality by Jha et al. (2010), when hospital performance indicators were analysed against hospital board engagement in different aspects of quality. Out of all the responses at both hospitals, only one respondent from Siloam thought that they spent more than 20% of their board meetings focussing on quality- an indication of a gap in opportunity to bring about needed changes.

Managerial respondents were asked what the most common reasons for patient complaints were. Both hospitals reported frequent complaints about hospital cleanliness and staff attitude. These problems needed to be addressed by management at both hospitals, as these are problems, not as a result of lack of human or physical resources, but rather as a result of a poor work ethic. Siloam's other common complaints were that of waiting time, and patient safety. This could be attributed to maintenance of buildings, and staff shortages, but management needs to come up with novel ways to address these difficulties despite the

shortages. Elim's other common complaint was that of physical resource shortages. Again, good management, budgeting and planning can avert these complaints, if the resources available are used and maintained to the maximum possibility. Supporting this, Afsharkazemi et al (2013) found that good performance influences the availability of physical resources, rather than the other way around.

5.4.2 Leadership structure

The South African governmental policy on public hospital management clearly stipulates the criteria for hiring managers. It lists educational, experiential and emotional intelligence requirements, making the choice of managers less ambiguous (Department of Health, 2012). Low turnover of managerial staff has been shown to positively affect hospital performance, meaning that the more constant the management, the better hospitals performed (Afsharkazemi et al., 2013; Mannion et al., 2005).

According to literature, hospitals whose managers are given enough authority to carry out their work effectively (Afsharkazemi et al., 2013), who have good relationships with other members of senior management (Landman, 2013), and whose chief financial officers have an understanding of the clinical needs of the hospital tend to perform better (Wince, 2010; Bisognano, 2009). Responses by senior management in this section were mostly positive. All managers, except one at Elim hospital who responded neutrally, felt that they had enough authority to carry out their work effectively. They also all felt that they had good working relationships with other members of the management team. In response to whether CFOs understood the clinical needs of the hospital, Siloam hospital's management unanimously agreed that they did. Elim was slightly less agreeable with this (75% agreed, and 25% were neutral). These positive responses pertaining to leadership structure are reassuring, and indicate that managers at both hospital work in an environment that enables them to carry out their responsibilities effectively.

A question was asked to senior management about the manager that held their position before them. None of the previous managers had been suspended, but two at Siloam hospital, and one at Elim hospital had resigned. Afsharkazemi et al. (2013) and Mannion et al. (2005) pointed out the advantages of a low turnover of management. Senior management resignation may be detrimental to the stability of the hospital, and may affect overall hospital performance.

The majority of improvement strategies were initiated by senior management. Whilst this is a common occurrence, the ideal structure would be to have non-managerial staff having the freedom and initiative to take responsibility for the improvement of services in their area of

work, as staff working in an area daily are more likely to see the needs of the hospital, and should not have to wait for senior management to address all the issues.

5.4.3 Leadership skills

Keroack et al. (2007b) found that CEOs whose subordinates called them by their first names rather than their surnames were more approachable, and this was associated with better performance. However, at the two hospitals in this study, the majority of staff refer to each other by surname. Keroack et al. (2007)'s findings that CEOs whose subordinates refer to them by first name's better performance is unlikely to be as a direct result of this, but rather is a sign of the leadership approach of those CEOs being one that allows subordinates to approach them. A change of perspective by both management and their subordinates, to learn to relate to each-other, and to be more relatable would assist in better performance.

Results showed that Siloam subordinates found their managers, on average, more dedicated and inspiring than Elim's. This could be attributed to a multitude of factors. One contributing factor could be that Siloam managers were assessed by themselves and their subordinates as more methodical and logical in their style of leadership. This describes a transactional style of leadership- a more constant, stable management which has been shown to positively affect staff morale, teamwork and overall hospital performance (Lega et al., 2013; Kakooza et al., 2015). It is also interesting to note that, according to the demographic data obtained, Siloam management is younger, serves an older staff, is less experienced than Elim's management team, and yet was assessed as more dedicated and inspiring than Elim's management.

With regard to their management approach, the literature review found that managers with a more hands-on approach, who were more involved in ensuring quality ran better performing hospitals, and were associated with better patient safety profiles Sexton et al., 2018). Interestingly, managers at both hospitals assessed their approach as more hands-on and involved , while their subordinates instead saw them as more delegatory in their approach. This difference in views points out a division between managers and their subordinates- where managers feel involved, but their subordinates feel as if their managers are not visible, and are more distant from the day-to-day activities of the hospital. Possible solutions to this could include managers occasionally attending middle management or ward meetings to 'keep their finger on the pulse of the hospital'.

5.5 The association between hospital performance and personal and organisational factors

Responses by senior management were analysed separately from non-managerial responses. The relationship between hospital performance and perceptions on personal and organisational factors according to the senior management was positive, but not statistically significant, due to the small sample size. The analysis on non-managerial responses indicated a positive relationship between the predictors expected to result in better hospital performance, and respondent perception of hospital performance, which was statistically significant in both the multiple regression analysis and ANOVA (p=0.000). The analysis encompasses all the personal and organisational variables which were previously found to contribute to better hospital performance, and this result corroborates the literature on which it is based. The analysis went one step further, and analysed the effect of each construct of perceptions of hospital performance. Leadership skills had a strong, and statistically significant contribution to the regression. Leadership skills linked to better hospital performance include dedicated and motivated leadership, a methodical and logical management style, and a hands-on approach (Lega et al., 2013; Kakooza et al., 2015, Sexton et al.,2018; Feili, 2018). This result adds to this evidence. The other constructs of good relationships between management and employees, and the positive effect of staff morale were also shown in the correlation coefficient analysis, but were not statistically significant on their own. Teamwork had a slight negative, close to zero effect on the perceptions of hospital performance in this study. Overall, the statistical tests performed on the data should be viewed with caution, due to the lack of a definitive assessment of hospital performance as a dependent variable in the analyses.

5.6 Limitations to the study

The estimated total population of non-managerial staff before data collection was carried out was 464. However, only 262 questionnaires could be distributed (56%), as not all members of staff were available to receive questionnaires, and so they could not participate in the study. This response rate can be attributed to three main factors: 1. The constant movement of health care workers from one section of the hospital to another, resulting in difficulties in reaching all possible participants at once at any given time. 2. Their busy schedule, resulting in their inability to complete the questionnaire in the time frame provided by the researcher. 3. Refusal to participate occurred with only two individuals, who chose not to complete the questionnaire after reading the information sheet.

There were some issues with systematic error.

Information bias:

The researcher noted a few issues with the reliability of the questionnaire. Several of the respondents did not know how to interpret the signs '<' and '>' used in the demographic section to delineate age groups. This resulted in several respondents abstaining to answer this question, and possibly completing this question incorrectly. A few respondents were also "spontaneous", "hands-on and involved" and "supervisor and delegator". As a result, several respondents did not complete these two questions. In retrospect, simpler English would have been more beneficial.

There may have been some recall bias in some of the questions that were asking about resource reliability, as well as with questions on meeting attendance.

In addition, the correlations between the measured factors and hospital performance could not be assessed concretely without the formal NCS report on the hospitals' performance. Instead, hospital performance was measured by the respondents' perception of their own hospital's functioning and performance. This, while it does give an indication of how the hospital runs, is not an accurate reflection of the hospitals' performance.

Selection bias

The study was conducted only on health care workers and managers, which does not provide a comprehensive picture of a hospitals' performance. A more accurate view of hospital performance could be obtained if patients perceptions were included, and if official governmental performance assessment data was available. In addition, employees may have a biased view of their own hospital's performance- whether positive or negative.

Confounding bias

There are myriad factors contributing to the running of a high performing hospital. This study looked only at a few, based on findings in literature, and the NCS of South Africa. As a result, internal validity was affected, as not every managerial factor that could affect hospital performance could be addressed.

5.6 Conclusion

The results of this study highlighted a number of managerial factors that affect hospital performance in both Siloam and Elim hospital. Most of the findings correlated with the findings in studies from the literature review. While the aim of this study was not to compare the two hospitals, there were some notable contrasts between the two. Siloam management is on average younger, and less experienced than Elim's. However, many of the managerial factors

examined showed that Siloam's staff and management had many positive attributes, including happier staff, who planned to stay at the hospital for longer; more staff involvement in the community; and higher subordinate opinion of their leaders in terms of inspiration and dedication. Siloam hospital, on average was also less content with the state of hospital quality. Both hospitals indicated that there was a lack of unity in terms of the hospital vision being shared with non-clinical staff. Both hospitals need to work on teamwork as well, as several questions directly or indirectly indicated a lack of communication and disparity in opinions on the level of teamwork at the hospitals. Multiple regression on non-managerial responses showed a relationship between perceptions of hospital performance, and the grouped contributors to hospital performance. Leadership skills such as motivation and dedication, methodical and logical management styles, and a hands-on approach were the only construct that made an individual statistically significant positive contribution to better performance, and so, it can be concluded that, in this setting, those attributes should be sought after, modelled and included in the training of leaders and managers.

Chapter 6

Summary, conclusion and recommendations

6.1 Introduction

This chapter will include a summary of the study, as well as recommendations to assist managers in working towards well performing hospitals, limitations and a conclusion to the research.

6.2 Summary

The South African DOH uses NCS to monitor hospital performance. The annual inspection report of 2015/2016 and 2016/2017 both cited a lack of oversight, accountability and good management as reasons for poor performance (Mazwai, 2016, Montshiwa, 2017). With this in mind, the study aimed to identify managerial characteristics that affect hospital performance in the sections demographics, organisational factors, and personal factors. The responses from the two hospitals were analysed individually, as well as being compared to each other and to literature recommendations where appropriate. Data was analysed using percentages, multiple regression analysis and ANOVA. A quantitative, cross-sectional descriptive analytical approach involving two district hospitals in Vhembe hospital was utilised, with a total sample of 246 respondents including 8 from hospital senior management, and 236 non-managerial respondents.

The objectives of the study were to:

- Assess the organisational factors associated with management of Vhembe district hospitals.
- Determine the personal factors associated with management of Vhembe district hospitals
- Measure the association between hospital performance and personal and organisational factors

The major findings of the study are as follows:

Demographics:

Whilst the purpose of the study was not to compare the two hospitals with each other, Siloam had generally higher levels of the personal and organisational factors associated with hospital performance than Elim. This, with a younger, less managerially experienced management team, but more clinically experienced team than Elim's.

Organisational factors associated with hospital performance:

- Communication was assessed as good at both hospitals, although non-managerial respondents expressed a need for better teamwork. More frequent, better attended meetings occurred in the hospital that generally had better staff morale, and better perceptions of support of employees by management. In addition, there was more community involvement in Siloam, which was postulated to be due to the management leading by example. Elim, in particular had high levels of feeling under-recognised.
- A lack of opportunities for continuous development and training, particularly amongst non-managerial staff was identified.
- All respondents reported a shortage of non-clinical staff.
- Non-managerial staff felt that shortages of physical resources were more marked than managerial staff admitted to.

Personal factors associated with hospital performance:

- Less than 50% of all categories of respondents were happy with the level of quality in their hospitals, indicating need for improvement. Both hospitals boards need to spend more time on quality improvement.
- Management style and approach was generally more in keeping with what literature such as that by Lega et al.(2013) describe to be associated with better hospital performance- transactional leaders that are more logical, methodical and hands on.

Measure the association between hospital performance and personal and organisational factors

A statistically significant association between hospital performance and personal and organisational factors was established, with leadership skills having the greatest contribution to this association.

6.3 Conclusions

This study highlighted several aspects of hospital management in both hospitals that were commendable, as well as several that need urgent attention for the improved running of the hospitals studied. Rather than only assessing each hospital's performance against the standard, the benefit of this study is broader. It highlights what literature recommends managers do to ensure high quality of service to their communities: factors such as strong teamwork and communication, leadership styles, and the importance of having unity and awareness of the goals of the hospital, and passion to carry out these goals. In addition, it reveals gaps in areas such as focus on quality improvement. It also gave staff members of

the hospital a way of voicing their opinions on how their hospitals are running in a non-threatening environment. It is hoped that this study will provide hospital managers with motivation, and literature-based recommendations for practice that will ensure quality care in their hospitals.

6.5 Recommendations

6.5.1 Recommendations related to service

- Hospital management should pay more attention to improving teamwork between themselves and their subordinates. Ways of doing this include:
    - Planning of meetings that are goal orientated and structured to ensure maximum productivity.
    - Ensuring clear, open lines of communication and give subordinates ample opportunity to air their views.
        - Take staff inputs seriously, and act upon them in order to improve staff morale, feelings of recognition, and respect of management
    - Management should be more in tune, and responsive to the needs of their subordinates, and have a hands-on approach to management.
        - This includes human resource development with more training in their fields of expertise.
    - Include staff in the quality improvement strategies to remedy the problems they raise.
- Strengthen board quality committees
- Prioritise quality improvement

6.5.2 Suggestions for future research

It would be beneficial to conduct a qualitative experimental design study, in which senior management individuals are encouraged to make changes in their management methods- such as by sending them on workshops to train them in team building exercises, and communication skills in the setting of management, and assessing the effect that these changes make on the hospital's functioning.

Statistical analysis of managerial factors associated with better hospital performance could better be conducted with a standardised unbiased assessment of the hospital's level of performance in order to correlate the specific characteristics found in the managers and functioning of the hospital, with the hospital's current assessed level of performance.

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A. Questionnaire for senior management

Factors associated with hospital performance questionnaire: Senior Management questionnaire

To help us collect data on factors associated with hospital performance, please complete this survey and return it to the researcher.

Please tick the most correct answer.

A. DEMOGRAPHICS					
Age (years)	<40			>40	
Gender	Male			Female	
Marital status	Single	In a relationship		Married	Divorced
Highest level of formal managerial education	None	Diploma	Undergraduate	Masters	Doctorate
Managerial experience (years)	<5		5-10	>10	
Clinical work experience (years)	None	0-5	5-10	>10	
Where did you work in your position prior to this one?	Here			Elsewhere	
Is the post you are filling a permanent or acting post?	Permanent			Acting	
B. ORGANIZATIONAL FACTORS					
i. Positive Organizational Culture					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1. I am aware of the history of this hospital					

2. The management approach in this hospital affected at all by its' history and traditions.					
If you answered yes to question 2, please give an example					
Teamwork					
3. Teamwork between members of the senior management team is good					
4. Teamwork between senior management and operational management (such as unit heads) is good					
5. Teamwork between senior management and the non-managerial staff is good					
6. Meetings are productive and necessary					
7. How often are meetings held between managers and the rest of the staff?	Never	Every day	Once a week	Once a month or less	Don't know
8. If meetings mentioned in question 7 are held, what percentage of the team attends the meeting on average? (%)	<25	25-50		50-75	>75
9. Rank these in order of importance, with 1 being the most important, and 3 being the least important:					
a. Reaching the hospital's internal goals and targets					
b. Complying with the National Core Standard targets					
c. Disloyalty of staff to their leadership					
Relationships					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
10. Communication between management and					

non-managerial staff is good					
11. Relationships between myself and my colleagues are good					
Staff morale					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
12. I enjoy working at this hospital					
13. I see myself working here in 5 years' time					
Unity in reaching goals					
14. Non-clinical staff such as customer service, cleaning services etc. share in the vision of the hospital.					
15. I have a good understanding of the goals and vision of the hospital					
Expertise driven practice					
16. What clinical protocols are followed in the hospital?	National guidelines only		protocols refined for use in our setting		no protocols
Community involvement					
17. Are you involved in any community projects outside the confines of the hospital?	Yes		No		
ii. Building and Maintenance of Human Resources					
18. Have you received any training on the policies and guidelines that govern this hospital's practice?	Yes		No		
19. On how many occasions in the last year have you received training or attended a course in your field of work?	0		1-3		>3
20. Does any of the staff work part-time in a private institution? (whether officially or unofficially)	Yes		No		
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**

21. I have enough power to hire and fire staff as I see fit					
22. The posts available for health care workers are mostly filled					
23. The posts available for management are mostly filled					
24. The posts available for non-clinical services are mostly filled					
iii. Physical Resources					
25. There is often a delay in the supply of assets and equipment					
26. The hospital has adequate equipment					
27. There are more patients that need this facility than the hospital is equipped to provide.					
28. Equipment get serviced according to a definite maintenance plan					
29. Has there, to your knowledge, been a stock out of any medication in the last month?		Yes		No	
30. Has there, to your knowledge, been delays or inaccuracies in blood laboratory results in the last month?		Yes		No	
31. Is there ever a shortage of blood products?		Yes		No	
32. Has there been a fault in which the back-up plan failed in water supply or electricity supply in the last month?		Yes		No	
33. Is there a functional computerized information technology system for patient records in place?		Yes, functional	Partly functional	None/ not functional	
34. Is there a computerized system for monitoring financial performance?		Yes, functional	Partly functional	None/ not functional	
35. Is there a computerized system for monitoring clinical performance?		Yes, functional	Partly functional	None/ not functional	
iv. Effective Performance Monitoring and Reward Systems					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**

36. The board and senior management regularly see detailed performance indicators of the hospital					
37. The board and senior management often involve themselves in irregularities in performance indicators					
38. The NCS and our performance on them are generally known by staff					
39. I feel that my hard work is appropriately recognised					
40. Are there any rewards for good performance other than the national system of PMDS (Performance and Development System)?		Yes		No	
If yes, please give an example					

C. PERSONAL FACTORS

i. Focus on Quality

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
41. I am happy with the current level of quality of care at this hospital					

42. Which do you think is more beneficial	Comparing this hospital's performance to our peer institutions	Comparing this hospital's performance to our prior performance	Comparing this hospitals performance to National Standards
43. Is there a board quality committee at your hospital?	Yes	No	
44. How much time does the board spend focusing specifically on quality improvement? (%)	<20	>20	

45. What are most of complaints at the hospital pertaining to?	Waiting times	Staff attitude	Cleanli-ness	Lack of resources	Patient safety	Clinical manage-ment	Other

ii. Leadership Structure

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
46. I feel I have enough authority to carry out my work effectively					
47. My working relationship with other members of senior management is good and effective.					
48. The Chief Financial Officer understands the clinical needs of the hospital					
49. Where did the manager who filled your position before you go?	Transferred to another post in the Department of Health	Suspended	Personal choice resignation	Don't know	
50. Who usually initiates improvement strategies in the hospital?	Senior management	Operational Management	Non-managerial staff		
iii. Leadership Skills					
51. How do you mostly refer to members of your staff?	First name	Surname			
52. How would you describe your style of management?	Methodical and logical	Charismatic and spontaneous			
53. How would you describe your approach to management?	Hands-on, involved in day-to-day running of hospital	Supervisor, delegator			

Thank you very much for taking the time to complete this questionnaire.

B. Questionnaire for operational managers and non-managerial staff

Factors associated with hospital performance- operational managers and non-managerial staff questionnaire

To help us collect data on factors associated with hospital performance, please complete this survey and return it to the researcher

Please tick the most correct answer.

A. DEMOGRAPHICS					
Age (years)	<40		>40		
Gender	Male		Female		
Marital status	Single	In a relationship	Married	Divorced	
B. ORGANIZATIONAL FACTORS					
i. Positive Organizational Culture					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1. I am aware of the history of this hospital					
2. The management approach in this hospital affected at all by its' history and traditions.					
If you answered yes to question 2, please give an example					
Teamwork					

3. Teamwork between members of the senior management team is good					
4. Teamwork between senior management and operational management (such as unit heads) is good					
5. Teamwork between senior management and the non-managerial staff is good					
6. Meetings are productive and necessary					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
7. Senior management is understanding of any difficulties I face in the workplace					
8. Have you ever participated in a quality improvement project at the hospital?	Yes			No	

9. **If yes to question 8, who initiated your involvement in the project?**	Management			Self-initiated involvement	
Relationships					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
10. **Communication between management and non-managerial staff is good**					
11. **Relationships between myself and my colleagues are good**					
12. **I feel that some individual employees' needs are attended to by management more than others.**					
Staff morale					
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
13. **I enjoy working at this hospital**					
14. **I see myself working here in 5 years' time**					
15. **I receive enough support from senior**					

management to carry out my responsibilities adequately.					
Unity in reaching goals					
16. Non-clinical staff such as customer service, cleaning services etc. share in the vision of the hospital.					
17. I have a good understanding of the goals and vision of the hospital					
Expertise driven practice					
18. What clinical protocols are followed in your department?	National guidelines only	protocols refined for use in our setting	no protocols		
Operational management only to answer #19					
19. I have the freedom to refine national protocols based on the local hospital environment	Yes	No			
Community involvement					
20. Are you involved in any community projects outside the confines of the hospital?	Yes	No			

ii. Building and Maintenance of Human Resources					
21. Have you received any training on the policies and guidelines that govern this hospital's practice?	Yes			No	
22. On how many occasions in the last year have you received training or attended a course in your field of work?	0		1-3	>3	
23. Does any of the staff work part-time in a private institution? (whether officially or unofficially)	Yes			No	
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
iii. Physical Resources					
24. There is often a delay in the supply of assets and equipment					
25. The hospital has adequate equipment					
26. There are more patients that need this facility than the					

hospital is equipped to provide					
27. Equipment get serviced according to a definite maintenance plan					
28. Has there, to your knowledge, been a stock out of any medication in the last month?		Yes		No	
29. Has there, to your knowledge, been delays or inaccuracies in blood laboratory results in the last month?		Yes		No	
30. Is there ever a shortage of blood products?		Yes		No	
31. Has there been a fault in which the back-up plan failed in water supply or electricity supply in the last month?		Yes		No	
Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
32. The NCS and our performance on them are generally known by staff					
33. I feel that my hard work is appropriately recognised					
C. PERSONAL FACTORS					
i. Focus on Quality					

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
34. I am happy with the current level of quality of care at this hospital					
ii Leadership Structure					
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
35. Who usually initiates improvement strategies in the hospital?	Senior management		Operational Management		Non-managerial staff
iii Leadership Skills					
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
36. The leadership of this hospital is dedicated to the hospital					
37. The leadership inspires and motivates me					
38. How do you refer to the members of management?	First name			Surname	
39. How would you describe the style of management of the member of senior management	Methodical and logical			Charismatic and spontaneous	

directly in authority over you?		
40. **How would you describe the approach of management of the member of senior management directly in authority over you?**	Hands-on, involved in day-to-day running of hospital	Supervisor, delegator.

Thank you very much for taking the time to complete this questionnaire.

C. Information Sheet

RESEARCH ETHICS COMMITTEE

UNIVEN Informed Consent

Appendix B

LETTER OF INFORMATION

Title of the Research Study : MANAGERIAL FACTORS ASSOCIATED WITH HOSPITAL PERFORMANCE IN VHEMBE DISTRICT, LIMPOPO PROVINCE

Principal Investigator/s/ researcher : Donna Greyling, MBChB
Co-Investigator/s/supervisor/s : Dr T Tshitangano, PHD
Dr J Mabunda, PHD

Brief Introduction and Purpose of the Study: This research project aims to investigate the managerial factors associated with hospital performance in Vhembe District. This study will help to identify which managerial factors contribute towards a hospital performing well. This information will assist in helping other hospital managers to build top-performing hospitals.

Outline of the Procedures : Participants in the study include the managerial staff, medical doctors and professional nurses at district hospitals in Vhembe district. You have been chosen because as managers and health care workers, you have valuable knowledge and insight into how your hospitals run, and what effect certain factors have on the hospital's performance. The questionnaire will ask you about your opinions on current practices in your hospital. Your hospital was chosen randomly in Vhembe district, and your personal information will not be disclosed.

The questionnaire will take about 15 minutes to complete, and will be done on the hospital property, for the convenience of the participants.

Risks or Discomforts to the Participant: Participating in the research is not anticipated to cause you any disadvantages or discomfort.

Benefits : Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a beneficial impact on how hospitals are managed in the future. Results will be shared with the participating hospitals in order to inform their professional work.

Reason/s why the Participant May Be Withdrawn from the Study: It is up to you to decide whether or not to take part. If you do decide to take part you will be able to keep a copy of this information sheet and you should indicate your agreement on the consent form. You can still withdraw at any time.

Remuneration : The participants will not receive any remuneration

Costs of the Study : The participants will not be expected to cover any of the costs incurred in the study.

Confidentiality : All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any reports or publications. All data will be kept under lock and key, and only the researcher will have access to the data. Hard copies will be shredded after compilation and reporting of results. Electronic copies will be permanently deleted.

Research-related Injury : No research-related injuries are expected.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher, Donna Greyling (0716093197), my supervisors, Dr Mabunda (0828426328) or Dr Tshitangano (0824484111) or the University Research Ethics Committee Secretariat on 015 962 9058. Complaints can be reported to the Director: Research and Innovation, Prof GE Ekosse on 015 962 8313 or Georges Ivo.Ekosse@univen.ac.za

General:

It is up to you to decide whether or not to take part. Approximately 476 people will be asked to participate. If you do decide to take part you will be able to keep a copy of this information sheet and you should indicate your agreement on the consent form. You can still withdraw at any time.

D. Informed Consent

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Donna Greyling, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: SHS/18/PH/02/0304
- I have also received, read and understood the above written information (*Participant Letter of Information*) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant	Date	Time	Signature
.....	.....	.....	.....

I, Donna Greyling, herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher
…… Date…… Signature……

References:

Department of Health: 2004. *Ethics in Health Research: Principles, Structures and Processes*

http://www.doh.gov.za/docs/factsheets/guidelines/ethnics/

Department of Health. 2006. *South African Good Clinical Practice Guidelines*. 2nd Ed. Available at:

http://www.nhrec.org.za/?page_id=14

E. Permission from Limpopo DOH Research Committee

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Stander SS (015 293 6650) Ref: LP_2018_10-011

Greyling DM
University of Venda

Greetings,

RE: Managerial factors affecting hospital performance in Vhembe District, Limpopo Province

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
   - Research must be loaded on the NHRD site (http://nhrd.hst.org.za) by the researcher.
   - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager.
   - In the course of your study there should be no action that disrupts the services, or incur any cost on the Department.
   - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - The above approval is valid for a 3 year period.
   - If the proposal has been amended, a new approval should be sought from the Department of Health.
   - Kindly note, that the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.

Head of Department

Date 23/10/2018

Private Bag X9302 Polokwane
Fidel Castro Ruz House, 18 College Street. Polokwane 0700. Tel: 015 293 6000/12. Fax: 015 293 6211.
Website: http/www.limpopo.gov.za

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F. Permission from Vhembe District Manager

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OFHEALTH
VHEMBE DISTRICT

Ref: S5/6
Enq: Muvari MME
Date: 11 April 2017

Dear Sir/Madam

PERMISSION TO CONDUCT A STUDY – MANAGERIAL FACTORS AFFECTING DISTRICT HOSPITALS PERFORMANCE IN VHEMBE: GREYLING DONNA

1. The above matter refers.
2. Your letter received on the 11/04/2017 requesting for permission to conduct a study is hereby acknowledged
3. The District has no objection to your request as the Province has already granted permission through the HOD.
4. Permission is therefore granted for the study to be conducted within Vhembe facilities.
5. You are however advised to make the necessary arrangements with the facilities concerned.
6. Wishing you success in your studies

..... 11/4/2017
DISTRICT CHIEF DIRECTOR DATE

Private Bag X5009 THOHOYANDOU 0950
OLD parliamentary Building Tel (015) 962 1000 (Health) (015) 962 4958 (Social Dev) Fax (015) 962 2274/4623Old
Parliamentary Building Tel: (015) 962 1848, (015) 962 1852, (015) 962 1754, (015) 962 1001/2/3/4/5/6 Fax (015) 962

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G. Proofreading certificate

English Editing Certification Form

This is to certify that I have edited this thesis/dissertation manuscript entitled:

Managerial factors affecting hospital performance in Vhembe district, Limpopo Province

prepared by:

Donna May Greyling

and have found it thorough and acceptable with respect to grammar and composition.

Signature

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0828152220

24 February 2019
Date